

Academia Italica,

The Publick School of

DRAWING,

OR THE

Gentlemans Accomplishment.

BEING,

The Ingenious, Pleasant and Antient Recreation of the Noble, and the honour of Arts, wherein you have plain Examples and Directions to guide you to the knowledge, first, of the noble and useful Art of Drawing, with a Discourse of all the External Parts of Mans Body, whereby it plainly appeareth how one part joyneth to another; by which means the judgement is well informed of every parts pleyableness, and therefore the knowledge of the Anotomy is of great concernment to this most admirable Art.

Secondly, The manner of Washing or Colouring Maps and Prints, with the names of the severall Colours proper for that purpose, and how they may be mixed, and what Colours set off best together; As also how you should Shadow things to cause them to shew more natural and beautiful. With Instructions what you must do to paint Maps or Prints smooth on Cloth or Paper; And likewise what you must do to them to cause them to bear your Colours and Varnish.

With divers rare Secrets for making, ordering, and preserving of Colours, the which was never fully and really discovered until now.

Exod. 35. 30, 34, 35. *The Lord hath called by name Bezaleel the Son of Uri, the Son of Hur. And Aholiab the Son of Ahisamach of the tribe of Dan. Them hath he filled with wisdom of Heart, to work all manner of works of the Ingraver, and of the cunning Workman, and of the Imbroiderer in Blew, and in Purple, and in Scarlet, and in fine Linnen, and of the Weaver, even of them that do any work, and of those that devise cunning works.*

The First Part.

LONDON, Printed by Peter Lillicrap, and are to be sold by Robert Walton, at the Globe and Compasses on the North side of Saint Pauls Church.



Sold by Robert Walton at the Globe, and Compasses on y North side of St. Pauls Church

A N
E N C O M I U M

Upon that much admired and long desired Piece, now newly extant,

CALLED,

Academia Italica,

OR THE

Gentlemans Accomplishment.

Sold by Robert Walton, at the Globe and Compasses in St. Pauls Church-Yard.



What Rare *Anatomist* is this, that can,

Fearing no Colours, thus dissect a Man?

And when 'a hath *piece-meal'd* all the parts, yet he

Can make them *chime* in a sweet *Harmony*.

Proteus is this Man's *Debtor*; for *He* ow's

A hundred *Shapes*, for what this *Artist* showes.

And to each Form *He* adds *Promethian* fire,

(Though *motionless*) yet doth with *life* inspire.

His curious *Pencil* doth forbid to die,

Which clo'thes his *Shadows* with *Eternity*.

O that I had the Art to *Limn* thy fame!

How e're thy *Art* will live, so will thy Name.

The *Pale-fac'd Messenger* may claim thy breath,

Yet *Phenix* like thou'lt gain a *life* in death.

*

When I do view thy various *Postures*, I
Am forc'd t'adore thee as a *Deity*.
So near thou tracest thy Creator, nought
But life is wanting to compleat thy Draught.
Natures best Imitator! There is none
With thee dares come in competition.
The too too forward *Limners*, now I see,
Must read thy *Book*, and learn their *A, B, C*.
Tis not my vogue alone; I've heard some vow,
They knew but very little skill till now.
Others that do pretend to know far more,
Shall from this *Treasure* add unto their store.
All men must judge from what thou dost impart,
Th' hast perfected the *Picture-drawing Art*;
For what's admir'd in several men is found
Simple in them, in this a rich compound.
They, who the *greater world* have travel'd o're,
Come short of thee, for thou hast done much more
In traveling through the *less*: thy pains surmount
Their fruitless toyl, this gives the best account.
Each Page within this *Book's* a Map of Man,
The *Microcosme* contracted to a Span.
Great Artists skill most commonly doth lie
In the small bounds of an *Epitomy*.
Though brief, yet large and copious th'art found,
Limnings the *Structure*, Drawing is the Ground
Or Basis of those Arts, which thou hast laid
For Wit to work upon, and crave thy aid.
This edifice will last, and wandring Fame
Shall sound thy Glories, Eternize thy Name.

Thou great admirer and most devoted Servant,

R. Q.

To

TO THE
Ingenious Reader.



Am not ignorant that many drawing Books are already published, but divers of them, but indifferently done, and others ill contrived, the consideration whereof hath made me after long consideration, and consultation to publish this, as judging it to be more entire and compleat then any in being; and forasmuch as a great part of the Art of drawing consists in the true natural and lively resemblance of a Face, it being the grace and credit of a piece, you have therefore various examples, and they not very small because I would have them as well pleasant, as plain, the which I desire you carefully to observe, for it is the true steelling of a piece that makes it of worth, and indeed the diligent minding of what you draw after will be a good means thereto, and when you are come to that, that you can discern an Airy, tender soft naturalness in Prints, Drawings and Paintings, it will then whet your fancy, so that you will be in love with it, and it will cause you to admire the rare excellency of that Art which doth imitate, & come so near nature, as that both men and Beasts have been deceived as I could instance. But if the approbation of either the Learned or Noble, would raise your estimation of this Ingenious and to be admired Art I could easily produce you examples enough, but I shall onely give you a few, as Socrates, Plato, and Pirrhus the Philosophers did both draw and Paint. Paulus Aemilius, esteemed it of such high importance, that he had his Son instructed in it; as one of the most worthy and excellent accomplishment belonging to a Prince; and Pliny observes that there was never any famous in that Art, but he who by birth or Education was a Gentleman. And Aristotle saith that the Grecians did generally instruct their Children in drawing and Painting. Varro makes it part of the Ladies Education that they might the better skill in Needle-work and Imbroyderies: and of old this Art was in such high worth and Noble repute amongst the Greekes, that a slave might not be taught it; and to this present it is of high esteem in others parts, and there are divers Noble and eminent Persons in this our Nation, who are not onely lovers of this Art, but those who can do worthily themselves also.

But to speak much in the commendation of this Art would be labour lost, for no man of judgement ever went about to disparage it, but on the contrary, former Ages have doted too much on it, otherwise they would never have adored the Painters handy works; as for our Authors they were Master Painters, whose fame will never die, for they have left of their handy-work, the which are of more worth and higher esteem then Jewels, with Ingenious Artists, and Lovers thereof; for Art hath no Enemies, but the ignorant, for the more any Ingenious Art is known, the more it is in estimation. But some Ignoramus's may say that prints, drawings, and paintings, are not of necessity. Let such take this for answer; the like may be said of the richest and daintiest sort of meat and drink, curious and costly apparel, and rich Furniture for houses, but were they that thus object tyed to such Diet, Apparell, and the like, that it is onely of necessity, they would (I believe) think they were hardly dealt withal, I would ask you who think there is but small use of this Art. How he who maketh several Tooles which are for neat occasions, shall be able to size them to such or such a form or bigness, if he hath not at least much in sight of proportion, as to come near the matter, and the nearer any thing is made to that size for that occasion it is made, I hope you will grant it is the better, and this I am sure

of

To the Ingenious Reader.

if, that he who can draw and guide his hand to a hair, is best able by his Eye to discern how to proportion anything to a punctual bigness; And if drawing be slighted, what monstrous models, Effigies, Statues, and common Signes in proceſs of time ſhall we have, think you? When as divers already are ſo pittifully drawn and meanly painted, that there is but little difference between a Lyon and a Dog.

And farther, what will become of the Imbroiderers, Stone-cutters, Carvers, Drawers, and ſeveral other Callings, if Drawing be ſlighted? And Schoolmiſtreſſes, and curious Needle-works, certainly will quickly fail, becauſe there is ſo few of them able to help themſelves by their own Drawing, (the more is the pity) and ſorry I am that our Women herein come ſo far ſhort of divers in other parts, they being as Ingenious if they would but put themſelves upon it; but I confeſs they have not ſo many helps, therefore I could wiſh that they as well as men, would make uſe of this Book until they know how to get a better. I have (I confeſs) ſpoke more than I thought to have done for this Excellent Art, and the cauſe thereof was ſome words that came from an Ignorant Perſon, even as this Work was ready for the Preſs, the which I will not trouble you with. But becauſe the Vulgar and Ignorant ſort of people, take Painting for an Inferiour thing, to Liming: I ſhall ſay to it, that they are much miſtaken for that in the main, they are both one, that is in exact Drawing or true Stelling, and that the difference lies only in this; that Liming is in Water Colours, and Painting in Oyl Colours, and therefore of more Duration: But in each ſome far excel others, and that I take to be the reaſon why the Ignorant would have the ordinary Painter, which uſually painteth common Signes and Houſes, a Painter, and he that painteth Pictures by the Life, though in Oyl; a Limner, whereas they profeſs themſelves to be Painters, their works declare it, and the prime Workmen doe (when any will go to the charge) paint Romes and ſometimes Signes alſo.

Will any be ſo Ignorant as to ſay Ruben was not a Painter, let them enquire who painted the Banqueting-houſe at White Hall, Sir Anthony Vandike, was a Painter, and once Rubens ſervant.

And now be pleaſed to take notice of ſome few more famous Painters, and alſo Ingravers, whoſe Works I commend to your Obſervation, and Immitation, Franciſco Parmegiano, Lumberto Suane, Titian, Tintoret, Battista Franco, Anibal Carrat, Velement, Raphael Urbin, Michelangeloe, Baſſan, Haſe Holbip, Baptiſto Vententino, Mark Antonio, Lucas van Leyden, Tenpeſt, Paulus Phrenes, Julio Romano, July Bonafon, Albert Duer, Cornelius Cort, Egidius, John, and Raphel Sadlores, Sanredam, Pontius, Voſterman, Muller, Balſweert Golzius, Bloemeert, Vanden Hoove, Loggan, Hertachs, Engliſh, Pain, Ciſtel, Glover, Fathorn, Vaughan, Cocker, Godard. To name more here, either of thoſe whoſe Fame liveth now they are dead, or thoſe that are yet in being, would in this place (I conceive) be too much, and therefore I ſhall forbear.

T. P.

Licensed, April 4. 1666. Roger L'Eſtrange.

For as much as no Man can work without Tools, I shall in the first place give you the names of what Instruments are useful and necessary for Drawing, and these are those.

Paper, Charcoals, Black-lead, Red-lead, French-chalk, three or four Feathers, Pens made of Ravens Quills, a pair of Compasses, a Rule, black Chalk.

The use of the forementioned Instruments.

Paper is so necessary that nothing can be done without it; and if you will use that which is white let it be thick and smooth; but there is a kind of Sky-coloured-blew, which is much used, but chiefly that which is a kind of an Ash colour.

Charcoal, let these be soft, smooth, fine-grained; this must be cut or slit into slender pieces, and then sharpened at the point after the manner of a Skure; But if you intend to draw any thing only with a Coal, then that it may not go off, draw it through some fair Water, and let it dry.

With your Feather, you must wipe off or out the Charcoal where it is drawn amiss, and mend it; and this you must mind, or else you will confound your selves with variety of strokes, that you will not know which is the right that you should follow.

Compasses, though very useful to Practitioners or young Artists, yet if constantly used, will do you hurt, for that you will not know how to draw without them, whereas you should only use them, when you have finished with Charcoal to measure, if it be every where true, before you draw it with your black-lead.

A Ruler, and this is useful when you purpose to draw any streight or perpendicular Lines, Square or Triangles; but make more use of your Hand, Eye, and Judgement, then the Ruler, especially after you have a while practised; but you may use it to find evenness and exact streightness of your Lines, when drawn by the Hand and Eye to trie them.

Black-lead, with this you may draw over again that you drew in Charcoal, because this will not wipe out with your Hand when you come to draw with a Pen; for if you should draw with your Pen on the Coal it would fur it, and not draw neat and handsome strokes, nor can you so well mend the faults of the Coal with your Pen, as with Black-lead.

The Pen being the finisher of your work, with it you must therefore be most exact, and be sure your work be right before you begin, for it will be too late to alter after that.

Black chalk is for drawing on blew Paper, and they that use it, should first be well used to drawing, and pretty expert therein.

French-chalk, with it you are to touch the lights, of what you drew before with black-chalk.

Now having these Instruments ready by you, the first thing I shall commend to your Practise, shall be to draw Ovals, Circles, Squares; and the reason you should be first well exercised in these is, because hereby you will be fitted for the performance of other things.

Of the Eyes.

THe Eye is that which gives much of likeness to a face, and is a great credit thereto, and therefore for your better assistance and guide therein, I have given you two severall examples, by the which you may clearly see how they are drawn gradually, the one figured 1. 2. 3. 4. 5. the other marked *A B C*. and the other two under them compleatly finished not marked.

Of the foreright face.

My advice in the first place is, that you often imitate the form of an Egge, for that is the most generall and certain form can be given, yet I confesse it is in this as in all other Arts, that no generall rule will always hold, and therefore no wonder though not in this nice and curious Art, wherein a small mistake produces a gross error: but to the matter, I say, first draw the form of an Egge, the lesser end being downwards, this being done, draw a direct line in the midst down from the top to the lower part thereof, then divide it, from the forehead into 3 equall parts with 2 lines, in the first, the eyes must be placed; in the second, the nose down to the lower part thereof: in the third, you must carefully place the mouth and Chinne, as by the sight of your examples marked *d* you may clearly apprehend: remembering that the eyes must always be in the first, and that the distance between the eyes is the

length of an eye, and that their inward corners be exactly over the outside of the nostrills; if you draw the ear of a foreright face in an Oval, it must be very narrow, because it is not fully seen, and be sure it be proportionall, not exceeding in length from the eyebrows to the lower part of the nostrills. These being done, joyn on the neck, and then adde the hair in that manner as may be comely to the judicious beholder; and note that as you read you observe your example and if any thing seem dark, read and read it again, and view and treble view your example, and I doubt not but what once cannot do, diverse times will effect, for things to their best perfections come, not all at once but some and some, what cannot be by force attained, by leasure and degrees is gained.

To draw childrens heads sidewayes.

You may do this to what proportionable bigness you please, in this manner, first make a perfect triangle, that done, take a pair of Compasses, and upon each point thereof make a Circle exactly round of that bigness that they may touch each other, by which means you will have the like Figure as that marked E. Now two of these Circles will be even upon one side, and the third behind joyned to both the other, and this is the first Demonstration. Having done this, you go on and fetch the circumference from the out-stroak of the uppermost round, to the lowermost of the hindermost, and by that means form the Head; and observe that that side which hath the two even rounds, one must serve for the Forehead, the other for the Throat, and before there is a space where you must make the Nose and Eye, and under them the Lips, between which must be the Mouth, and under them the Chin, and at the bottom of the lowermost round a stroak for the Throat, and from the bottom of the hindermost round, joyn the Nape of the Neck, as you may see in the second Example or Demonstration marked F.

Now in the third Example marked G. you have the Ear in its proper place, the which is as you see in the nearer part of the farthermost round, and so your Hair being added, you have the side Head finished.

In that Example marked H. you may plainly see what power or prevalency a true Rule and Reason hath in designing, for you see there is no point nor stroak but it performeth his office. And although there be three Heads in this Example, yet you may leave out two, and take onely one, without any danger of errour.

To draw a Childs Head foreright.

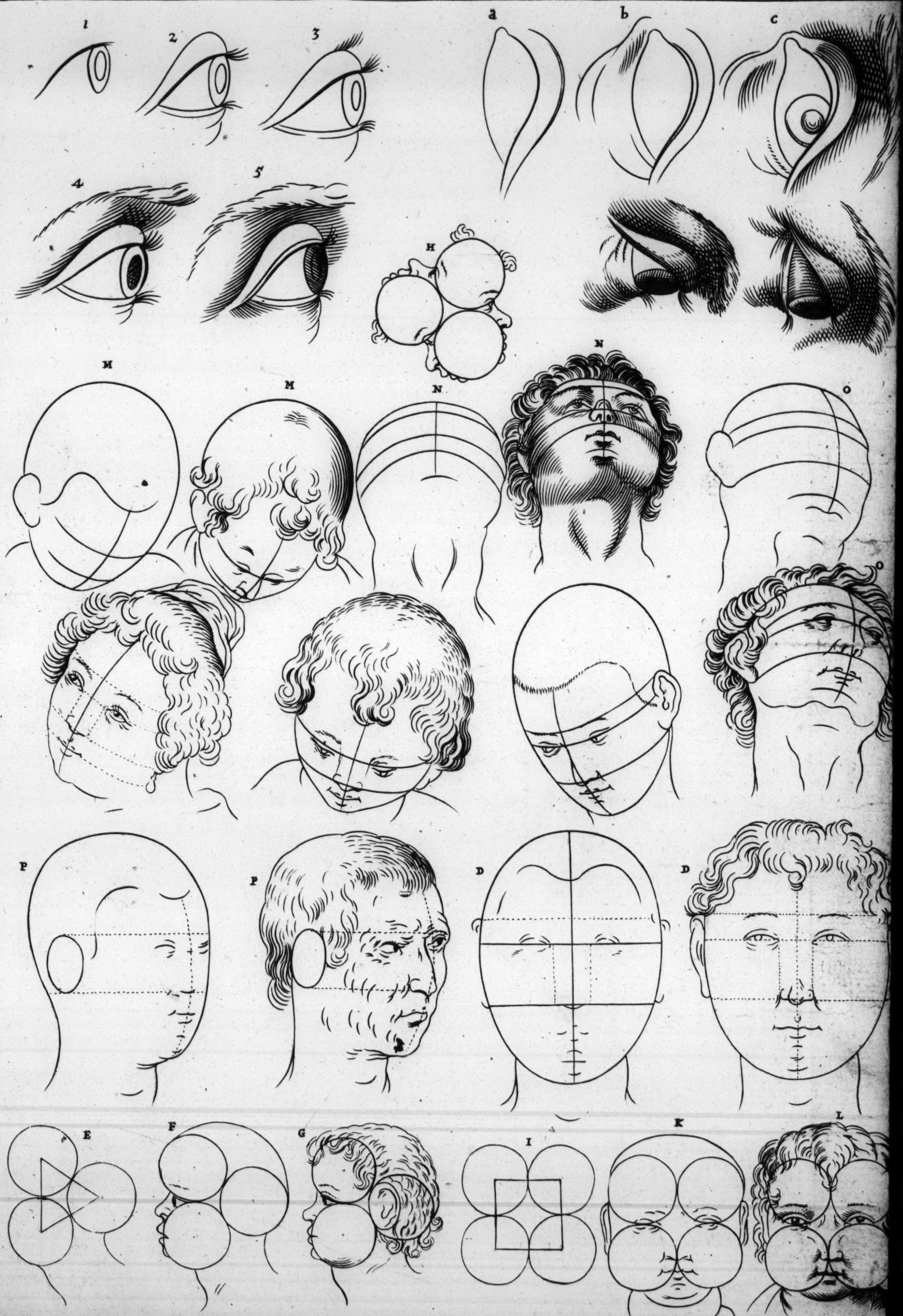
To do this, instead of a Triangle make a Square or Quadrangle, the which being first drawn, it will be a means to guide you to place the Circles in their right places, as that Figure marked I. sheweth, and in that Figure marked K. you see how the Eyes, Nose, Mouth, and Ear are to be placed, of which you must have a special care, and in that Figure marked L. you have it more compleatly finished with the Hair, Eyes, &c. as there you clearly see; and thus by observing the measures and places of all the several parts, your work will manifest your judgement, and come off with the greater life. And take notice, that as any Face or thing turns from you, so it declines, and the other part augments, as you may see in that Face marked P. So the holding of the Head down shortens or loseth in the lower part of the Face, as that marked M. and the turning up of the Head, causeth it to loose in the upper part as it goeth from your sight, as appears by that marked N. and observe that whereas in the same Page there are two Heads marked D. two marked P. (and the like) that the first hath onely the out stroaks and lines, and the other which hath the same Letter, is the same Head more finished.

Notwithstanding I have shewed you how to draw Heads by measures, yet now I shall proceed & give you more Examples without those divisions, and they are indeed the best and surest guide to this Art.

After you have practised a little by Rule, and brought your hand in; and when you would imitate any of these or other things, first draw your out-stroaks, principal Veins and Muscles lightly, and afterwards shaddow them up, for that will both increase your judgement, and bring command of hand; and note, if ever you intend to draw well, never practise after slight, lame, pittiful priats or drawings; and for prevention of this evil, I have at length here fitted you with what is well approved of (not onely by my self, but also) by all men of judgement, for the names of our Authors are of such repute and fame, that their works are choicely preserved and kept by eminent Persons as Rarities, but this by the way: When you can draw and shaddow well, you should proceed to hatch after those Heads with a Pen, and that will be a good means to fit you for Graving and Etching, which followeth in the second part.

Academia Italica. The First part of the Publick Schoole of DRAWING
fit for young beginners

Rob: Walton Excus.



and 18.	Imprimis for ii yards Silk Farrendine at 12 ¹ / ₂ yard	06	12	00
	for 2 yards of broad bon lace at 8 ¹ / ₂ the yard.	00	16	00
	for Stays	00	05	06
	for Callio to lay under	00	02	00
	for Silk and galoun	00	03	06
	for Sleeve Linings	00	01	06
	for Ribband to border the Skirt	00	02	06
	for Bodie Lining	00	05	06
	for Stiffning the Sleeves	00	00	06
	for two pockets	00	02	00
	for a Busk and lace	00	01	02
	for making the Gowne	00	12	00
	More for 3 Ecce of the best white Florence Safinet at ii ¹ / ₂ 6 ¹ / ₂ the Ecce.	01	14	06
	for bordering and a pocket	00	01	10
	for Silk and binding	00	01	00
	for making the petticoat	00	02	00

for M^{rs} Hester.

Suma

11 03 06

Ditto.	More for 12 yards ^{Tabby} $\frac{1}{2}$ of flowered at 16 ¹ / ₂ the yard	10	00	00
	for Stays	00	05	06
	for Silk and galoun	00	03	06
	for fustian and Callio to the Sleeves	00	02	06
	for Bodie Lining	00	05	06
	for Stiffning the Sleeves	00	00	06
	for Ribband to border the Skirt	00	02	06
	for 2 yards of Silver lace at 8 ¹ / ₂ yard	00	16	00
	for pockets	00	02	00
	for a Busk and lace	00	01	02
	for making the Gowne	00	12	00

Suma

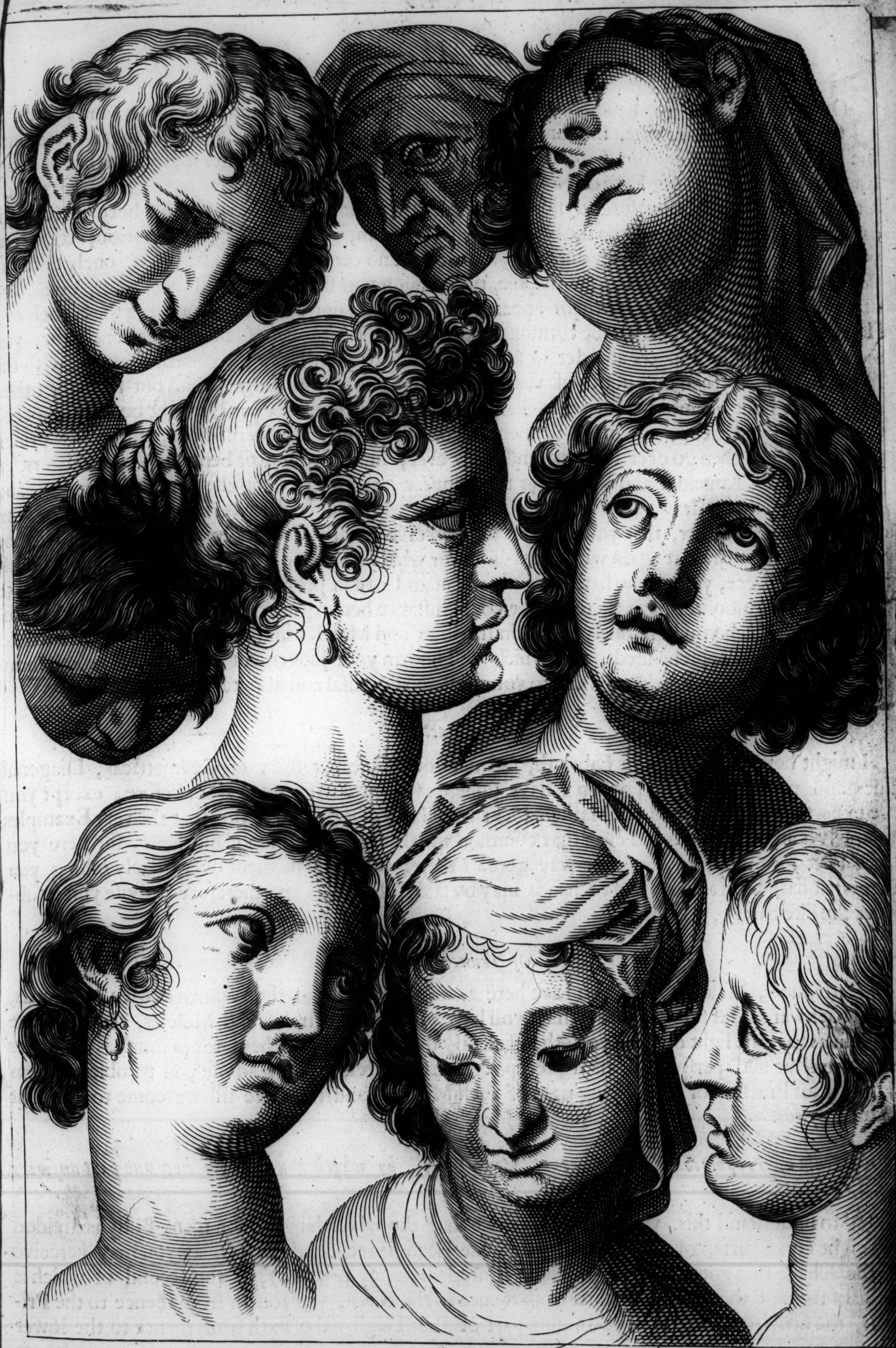
12 11 02

Suma Totall is.

23 14 08

	£	s	d
Taken from the other side as appears	23	14	08
June 18 More for 7 yards black Mantua at 12 ^s the yard	04	04	00
for 8 yards of broad bon lace at 8 ^s the yard	03	04	00
for 12 yards of Narrow bon lace at 2 ^s 2 ^d the yard	01	06	00
for 12 yards of foot at 3 ^d the yard	00	03	00
for Stays	00	05	06
for Silk and galoun	00	08	06
for Sleeve Linings	00	01	06
for Bodice Linings	00	05	06
for Stiffning the Sleeves	00	00	06
for Ribband to border the Skirt	00	02	06
for pockets	00	02	00
for Calico to lay under	00	02	00
for making the Gown	00	13	00
More for 3 yards $\frac{1}{2}$ of rich Genua Yellow Tassie at 14 ^s the yard	03	01	08
for 16 yards $\frac{1}{2}$ Silver lace at 4 ^s 6 ^d the yard	03	14	03
for 16 yards $\frac{1}{2}$ of pink and Silver foot at 10 ^d the yard	00	13	09
for a pocket and Calico to face it before	00	01	06
for bordering	00	02	06
for Silk and binding	00	02	00
for making the Petticoat	00	08	00
for a lace to the Gown	00	00	06
Suma	19	01	02
More for a Laced Scarffe	00	12	00
for two Lawne Handkerchieves at 8 ^s p piece	00	16	00
for a Stiffning Handkerchieve	00	04	06
for a Sent of Silver and French Yellow Knots and and trimmed Gloves	01	16	00
for a pair of Gloves trimmed with black $\frac{1}{2}$ Satin Ribband and knots	01	04	00
for a String Fan	00	04	00
paid Howell Bloomer for a letter	00	00	06
for coarding Matting and carriage of the Trunk made	00	04	08
Suma	05	01	08
More for your Son as by the particulars appears	14	05	11
Suma totall is	62	03	05





Of Hands.

Some, and that of good judgement, say that the Hand is the length of the Face, and should be so big as to cover it, when the Fingers are spread abroad and no more; others say it is three times the length of the Nose; but these Rules, though good general ones, differ more than that of Face for some that have a long Face or Nose, have but a short Hand, and others have a short Face and long Hand; I would therefore advise you not to draw Hands till you have a while been exercised in drawing, and then you will be the better able to do them, and to perceive the various actions and postures, in which there is much difficulty, and in these no certain Rule can be given, onely take notice that when you draw a Hand with Cole, that though you should draw all the Joynts, Veins, and other things exactly, yet let them appear but light and faintly: And in touching the bigness of a Hand, observe the manner of the turning, and that with faint touches, that being done right, you may either part the Fingers asunder or not, according to your Example you draw after; with the like faint strokes, then take notice of that place where any of the Fingers stand out from the other and make a faint resemblance thereof; having done that, if you see your Draught be right, proceed to draw it more exactly, and make the bending of the Joynts, the Wrist-bone, and other principal things, and then go over it again, and draw every small swelling or bending of the Fingers, also the Nailes, Knuckles and Veines, as they appear, and every thing else you can perceive; and note this, in all you draw, that when you have done with your coale, you faintly whiske over your drawing with a Feather, that you may but just perceive your strokes, for by this means you will the better see how to draw it again with black-lead, or what you please; and although the hand be last finished in a Peece, yet he who hath not judgement and care in proportioning thereof, is like to make but a bad conclusion. I have therefore for your assistance herein given you divers of the most useful postures, in which you have onely the main shadows and Muscles in this first part, because I would have them plainly apprehended, the which will inform your judgement more then a promiscuous discourse, I shall therefore leave them to your judicious perusal and imitation.

Of Feet.

I might here lead you into a Labrinth, and tell you a Dubious story of Geometrical, Diagonal lines and proportions, and when I have done, leave you as wise as you were before, except you are expert in Geometry and the Mathematicks; I shall therefore only tell you, that the very Examples themselves are so Obvious and clear that common words cannot better explain them, for here you have Feet fore-shortned, and side-ways, &c. I therefore shall passe them over, onely telling you that what hath been already said of hands may be said of Feet also, and therefore I advise you to observe the like care.

Of Truncks or Bodies.

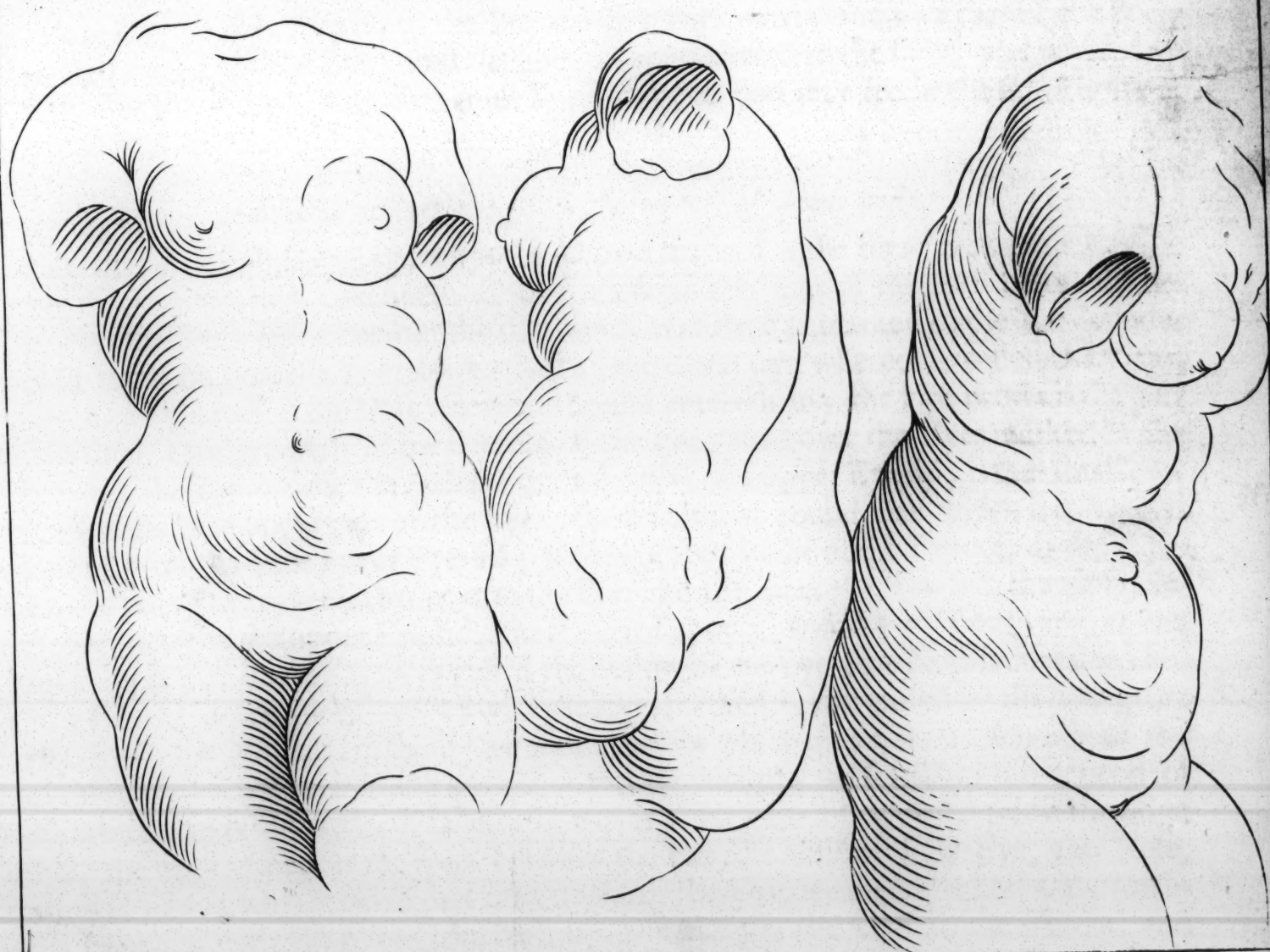
AS to these, I shall say that you have here as well the Bodies of the Women as Men, forwards, backwards, and side-waies, in which you have only the out-strokes and Muscles, the which are so plain as that the sight of the Eye doth sufficiently declare and shew them, for as much as examples are more clear and perspicuous then precepts. I shall therefore onely advise you to observe them well in your Practise for the placing right of each Muscle, and no more till we come to speak of whole Figures.

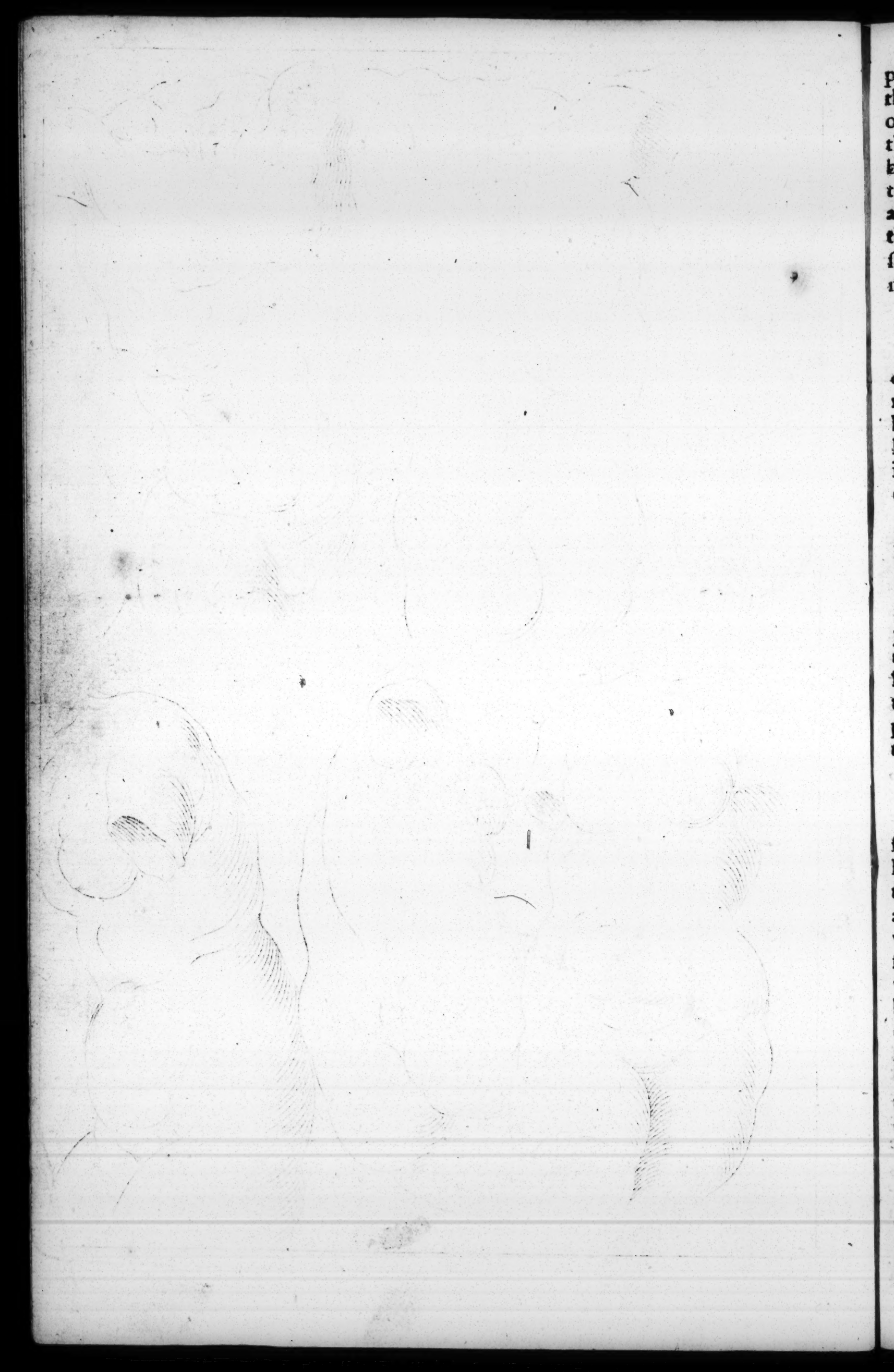
The Rule of Proportion or Measure of Mans Body, by which you may see how one part answers to another.

And to understand this, you must take notice that the whole length of a mans Body is divided into eight equal parts, of which eight parts, the Head is reckoned the first, as you may perceive by the Schalle that goeth down by his side, figured, 1, 2, 3, 4, 5, 6, 7, 8. the second of which is to the bottom of the Brest, the third from thence to the Navil, the fourth from thence to the Privities, the fifth from thence to the brauny part of the Thigh, the sixth from thence to the lower part









part of the Knee, the seventh from thence to the small of the Leg, and lastly, from thence to the Sole or Heel of the Foot: Now the breadth of his Shoulders, are the length of two heads, if not fore-shortned, and the breadth of the Hips two measures of the Face; the Arms being stretched forth, make the same measure or length of the whole man, the breast being taken in, and so reckoning from the very end of the Fingers that are on the right Hand, to the utmost extent of them on the left; and the difference that is in the Proportion between a Man and a Woman, lieth onely in this, that she is narrower in the Shoulders, and broader in the Hips; and her Arms, Thighs, and Legs, must be plumper or fatter; as also she hath not so many Muscles, nor must they lie so hard as those in a Man; and this is sufficient for the measure of both Sex.

Of Children.

Having spoken already of Men and Women, I will now say something concerning Children; for though, as I said before, there is but little difference between a Man and a Woman, yet Children differ much from both, for that they are more fleshy and lumpie, their bodies not being grown into form and shape, therefore their bodies are divided but into five lengths or parts; the three first from the top of the Head to the Privities, and the other two in the Thighes and Legs, as is marked and figured by the Scale that goes down by the side of the fore-right Boy figured.

The breadth between the shoulders, is the length of a head and a halfe; the breadth of the Body above the Navil, the full length of an Head; the breadth of the upper part of the Thigh, is the third part of two lengths of the Head; the breadth of the Knee, the same as betwixt the Eyes and Chin; the small of the Leg, and the brawn of the Arm, very neer as thick as the Neck; and observe that the measure of the back parts answer to the fore parts, onely the back parts have more Muscles, which you must carefully observe to make them lie soft and Arie, and be sure that one thing answers to another in the turning of the Body, as you may observe they do in the Boy standing backward; and that part of the Body that standeth most from the Eye, must decline, as it appeareth to the sight, and where any part of the Body giveth in, the other must stand out, as you may see in the side Figure of the Boy, and thus much for this.

Some Demonstrations on the fore-part of Mans Body.

The highest part of all, is well known, is the Crown marked *A*, the fore-part whereof is the fore-head marked *B*. which containeth all the space from the root of the Hair before to the Eye-browes; the Temples lie betwixt the fore-head, and the Ear, marked *C*, the Ear is under the root of the Hair, near the Temples, marked *D*, the lower part whereof is called the *Tippe*, and in the midst thereof is the Hole where the Sound entereth in; the Eye-browes is the part where the thick Hair groweth at the bottom of the Fore-head over the Eyes marked *E*. the space between the Eye-browes, the *Italians* call *Glabella*; the upper Eye lid, is that small part which compasseth the upper part of the Eye; the Eye is that round Ball which is contained between the upper and the lower Eye-lid; the black spot in the midst thereof, is the apple or sight, the outward corner is that next to the Ear, and the inner that towards the Nose, and all the space between the upper Eye-lid, the outward corner, and the whole turning of the Eye to the upper part of the Cheek, is called the hollow of the Eye; the Nose is contained between the Cheeks, descending from betwixt the Eyes marked *F*. and endeth at the lower part of the Nostrils; the Nostrils are those two prominencies which give out on each side of the bottom thereof, each whereof hath an hole or passage whereby we smell; the lower end of the Nose which stands forwards, is called the top or point, the rising in the midst the ridge or Grissel, the upper Cheek is the space between the Ear, the hollow of the Eye, the Nose, and the lower Cheek whereof that part rising towards the Eye, is called the Ball; the lower Cheek is bounded with the upper, the Nostrils, the Mouth, the Chin to the Throat, and the Neck under the Ear; the upper Lip is that *Fleshy peece* above the Mouth; the Mouth is

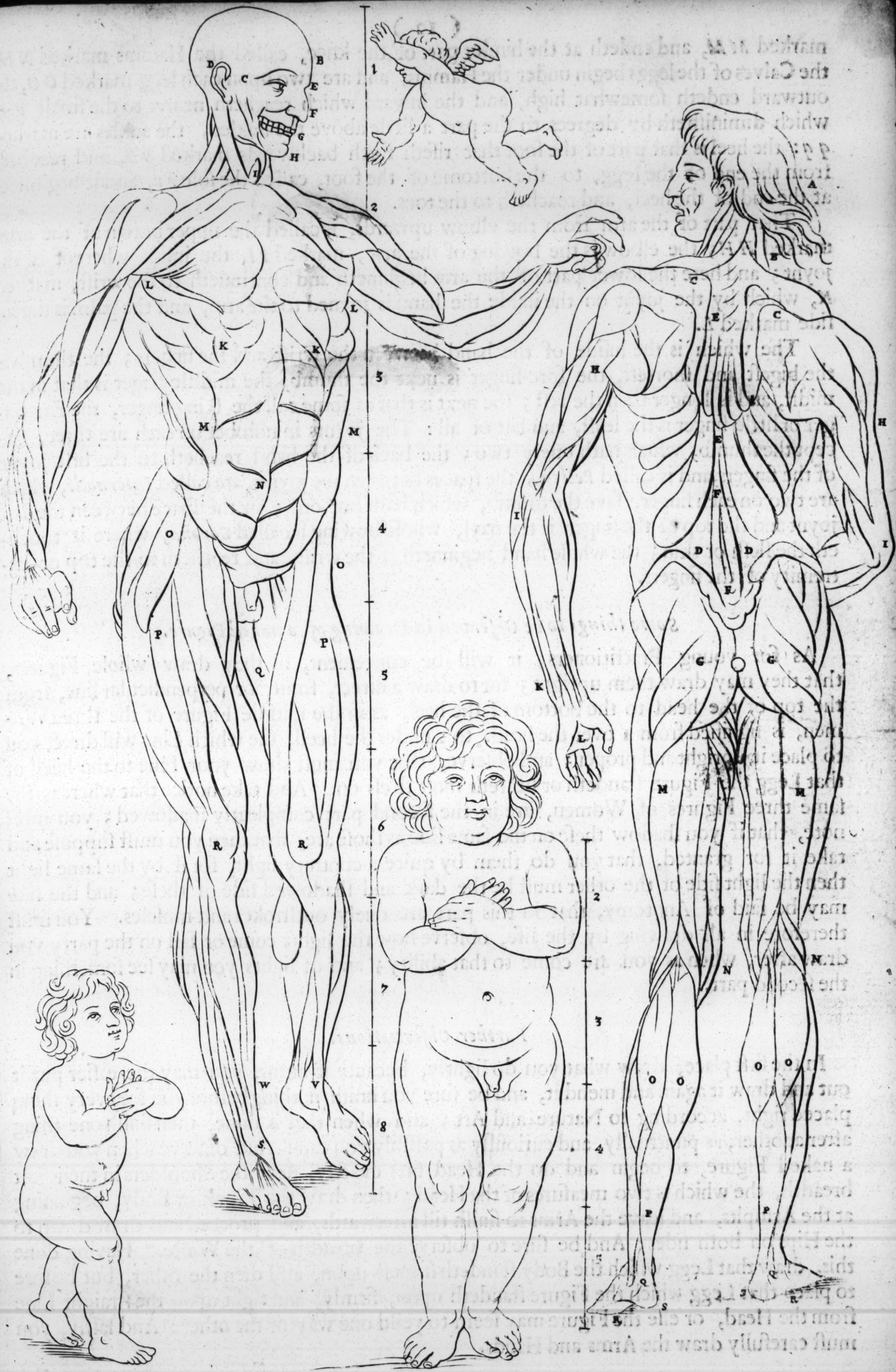
that division between the upper and nether lip marked *E*; both the lips are more red then the rest; the concavity which cometh down from the bottom of the Nose to the upper Lip, is the Gutter of the Nose; the Chin is the extreame part below the Mouth, marked *H*, on which, and the lower Cheek near the Ears, groweth hair, the which by a general name are called the Beard, and those on the upper lip the *Mustachiums*. The Throat is that part betwixt the Chin and the beginning of the Trunck or Body; in the midst whereof, directly under the Chin, is that rising called the Throat bone marked *I*: The concavity of the Neck before, between the end of the Throat, and the beginning of the Brest, is the Throat pit. The whole Trunck or Body before, containeth first, the upper Fork of the Stomach or Brest, which beginneth at the end of the Throat pit, the Brests or Paps, end with the short Ribs marked *K K*, and are also called the parts under the Paps, &c. In Women they are called Duggs, the heads whence the Milk is sucked out, are called Nipples; the space between the Brests or Duggs, at the lower Fork of the Brest is the Bulk, the Armpits are those hollows under the Arms where the hairs grow, marked *L*; the short Ribs begins at the end of the Paps, and reach to the Flanks near the Belly, marked *M M*.

The upper part of the Belly lieth between the hollow of the Brest, and the Waist above the Navil and the Ribs, and is called *Epa*; the knitting of the Entrails, is called the Navil marked *N*; the Panch lieth between the Waite, the Privities and the Flanks, and is called the Belly, at the bottom of which are the Members: The rising at the lower part of the Waite maketh the upper part of the Thigh, and is called the Hips, marked *O O*. The Leggs containes these parts, first the Thigh which beginneth at the Body or Trunck, and endeth at the Knee, marked *P P*; the hollow of the Thigh, is the inner side thereof below the Privities, marked *q*. The knee beginneth at the round bone at the end of the Thigh, and reacheth clean down through the Legg, to the beginning of the Shin-bone at the Instep, marked *R R*; the Instep beginneth at the end of the Shin-bone, marked *s s*, and reacheth to the beginning of the Toes, and is called *Peſten*, or the upper part of the Foot. The Ankles are those Bones that bunch out on each side between the Instep and the beginning of the Heel, marked *V*. The Small of the Legg, is the space between the two Calves above, and the Ankle, Instep and Heel below marked *W*. The Pit of the Foot, is the Hollow under the hill or high bunch of the Foot towards the Sole: The Toes have also Joynts as the Fingers, though they be somewhat shorter, and Nailes in like manner, and are called the first, second, third, fourth, and fifth, and this shall suffice for the forepart, and are useful for the right placing of all the Joynts, by those who desire to be good Drafts-men; and I know full well, that the knowledge of Anotomy is admirably helpful thereto: Therefore I have given you Examples of them in this part, with onely the Out-strokes and Muscles, by means whereof the Letters marked in the Body stand more clear, and young beginners will the plainer see where all the Principal Touches, Strokes, and Muscles, must be placed.

Some Demonstrations on the Back-part of Mans Body

The hinder part below the Crown, marked *A* is called the nole or nape, and is that part, between the root of the hair, and the beginning of the back bone, which on either side, is joynd with the throat marked *B*, and at the lower end of the neck with the shoulders; whereof the bone in the midst is called *Astragalus*, or the bone of the knitting of the neck with the shoulders: The hinder part of the body called the back, consisteth first of the shoulder blade *C C*; the shoulder ends with part of the chine and loyns, the rest of the back reacheth down along from the Neck to the beginning of the clift of the buttock, that is from *C C* to *D D*; the loyns lie between the shoulder blades, the ribs, and the rest of the chine to the reins, or waite, marked *E E*: the reins reach from the loyns to the buttocks, marked *F F*, and do properly belong to that part below the waite, or girdle-steel; the buttocks are that flesh part which serveth us for the use of sitting *G G*, and the round hole in the midst between the buttocks, is that part out of which the Excrements come.

The hinder part of the legs beginneth under the buttocks, and it's called the thigh, marked



marked *MM*, and endeth at the hinder part of the knee, called the Hamms marked *NN*; the Calves of the leggs begin under the Hamms, and are two upon each leg marked *OO*, the outward endeth somewhat high, and the inward which reacheth nearer to the small *PP*, which diminisheth by degrees to the part a little above the ankles; the ankles are marked *qq*: the heel is that part of the foot that riseth forth backwards marked *SS*, and reacheth from the end of the leg, to the bottome of the foot, called the sole *rr*, and it beginneth at the end of the heel, and reacheth to the toes.

That part of the arm from the elbow upwards, is called the upper brawn of the arm, marked *HH*; the elbow is the bowing of the arm, marked *II*, the inside whereof is the joynt; and here the lower part of the arm beginneth and continueth to the wrist, marked *K*, which by the joynt on the inside the hand is joynd to the arm, and the palm is the inside marked *L*.

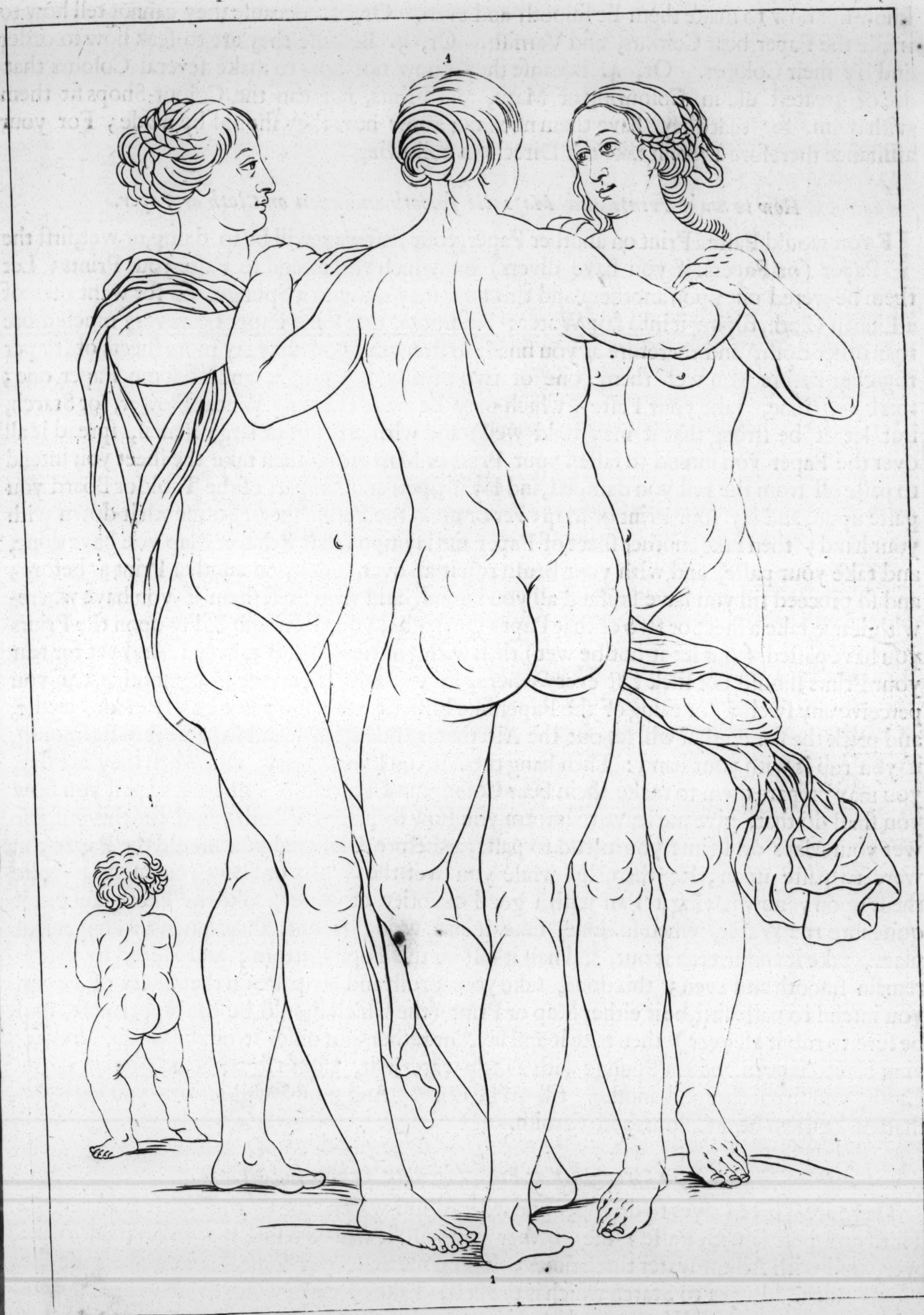
The which is the inside of the hand between the wrist and the fingers; the thumb is the biggest and shortest, the fore-finger is next the thumb, the middle-finger is that in the midst, and is longer then the rest; the next is that as some call the Ring-finger, the Ear-finger or little-finger is the least, and last of all: The joynts in number on each are three, except the thumb, which hath onely two; the back of the hand reacheth to the first joynt of the fingers, and is called *Peñen*; the spaces between the joynts, are called *Internodi*, which are two on each finger, save the thumb, which hath but one; in the space between the last joynt and the top of the finger is the nayl, whose bowing is called *Corona*, where it toucheth the flesh or skin; the whole hand beginneth at the wrist, and reacheth to the top or extremity of the fingers.

Some things to be Observed in Drawing of a naked Figure.

As for young Practitioners, it will be convenient, if they draw whole Figures, that they may draw them upright; for to draw a direct, strait, or perpendicular line, from the top of the head to the bottom of the heel, as in the middle Figure of the three Women, is signified from 1 over the head, to 1 under the heell, the which Line will direct you to place it upright and proper; and observe, that you must draw your Line to the heell of that Legg the Figure standeth or beareth most stress on. And take notice that whereas the same three Figures of Women, are in the second part compleatly shadowed; you must note, that if you shadow these on the same side as those are, that then you must suppose and take it for granted, that you do them by quite a contrary light, for if by the same light then the light side of the other must be the dark and shadowed side of these; and the like may be said of Anatomy, that in this part are onely outstrokes and muscles. You must therefore in all drawing by the life, observe how the lights come or fall on the party you draw after, when as you are come to that ability; and of lights you may see something in the second part.

Further Observations.

In the first place, draw what you do lightly, because if amiss, you may the easier put it out and draw it again and mend it, and be sure you finish nothing before you see every thing placed right, according to Nature and Art; and when that is done, then finish one thing after another, as punctually and curiously as possibly you can: And observe when you draw a naked Figure, to begin and do the Head first exactly, next the Shoulders in their just breadth, the which is two measures of the Head; then draw the Trunk or Body, beginning at the Armpits, and leave the Arms to finish till afterwards, and proceed and draw down to the Hips on both sides: And be sure to observe the breadth of the Waste. Having done this, draw that Legg which the Body standeth firmest upon, and then the other, but be sure to place that Legg which the Figure standeth upon, firmly, and right upon the straight Line from the Head; or else the Figure may seem to yeild one way or the other: And lastly, you must carefully draw the Arms and Hands.



For as much as Colouring Prints, and Maps, is of common use, and much Practised by the Gentry and Youths, who for want of knowledge therein, instead of making them better, quite spoyle them. And that either, 1. Because they pasting them on Cloth or Paper, know not how to make them lie smooth and even. Or, 2. Because they cannot tell how to make the Paper bear Colours, and Varnish. Or, 3. Because they are to seek how to order and lay their Colours. Or, 4. Because they know not how to make several Colours that are of greatest use in Colouring of Maps, and Prints, nor can the Colour-Shops fit them with them, for that they have them not, nor know how they should be made; For your assistance therefore therein take the Directions following.

How to make Prints and Maps lie smooth and even on Cloth or Paper.

IF you would Paste a Print on another Paper, your best way will be to damp, or wet, first the Paper (or Papers if you have divers) on which you intend to Paste your Prints; Let them be wetted one upon another, and this you may do with a Sponge, or for want thereof a Linnen Cloth, dipping it into fair Water: And note, that some Paper bears very much more than other doth, and therefore as you find it in strength, you may lay more sheets of Paper together before you wet them, one or two usually is enough, and of some Paper one; this being done, take your Paste (which may be made either of Wheat Flower, or Starch, but let it be strong that it may hold well) and with a Brush or large Pencil, spread it all over the Paper you intend to fasten your Print or Map unto, then take the sheet you intend to paste off from the rest you damped, and lay it upon another part of the Table or Board you paste upon, and lay your Print or Map over or upon the Pasted sheet, & smooth it down with your hand; then take another sheet of Paper and lay upon that Print or Map you have done, and take your paste, and with your Brush rub it all over, and lay on another Print as before; and so proceed till you have finished all you intend, and then press them if you have where-with, if not, take a sheet or two of that Paper you pasted your Prints on, & lay upon the Prints you have pasted (but let it not be wet) then with your hands rub it hard: And yet for fear your Prints should not stick fast every where, as you take them one from another; if you perceive any swelling or rising of the Paper like Blisters, take the point of a Pin or Needle, and prick the same, that will let out the Air that is underneath, and so cause it to lie smooth, if you rub it with your hand: Then hang them up on Lines to dry, and when they are dry, you may prepare them to make them bear Colours and Varnish. But before I tell you how you shall do that, give me leave to inform you how to paste on Cloth; and for this purpose wet your Maps or Prints you intend to paste, as before I advised you should the Paper you were to paste upon, let them lie while you wet the Cloth, or Sheet you intend to paste them upon; now having a Pail with a good quantity of water, take the Cloth and put it quite into the Water, when so done, take it and wring it out, then having a convenient place, take it and stretch it out, and nail it fast on the Top, Bottom, and Sides, so that it remain smooth and even; this done, take your Brush and lay paste on that Sheet of Paper, you intend to paste first, be it either Map or Print (the which should be the uppermost, and be sure to rub it all over) then take it and lay, or rather put or set it on the Cloth, and having placed it even, take a Sponge with a little water in it, and so smooth and strike it to the Cloth, and so another and another, till all be done. And now I will inform you how you shall make them bear Colours and Varnish.

To Strengthen or Prepare Paper to bear Varnish.

There are Three ways to do this, one with Allum-water, the Second with Size, but the Third and best is with Paste; use whether you will, it will be a sure way to do them twice over, and with Allum-water three times; If you use Size, put some fair water to it or else it soyls much. But as to Starch which is the best, Take of clean white Starch three ounces or better, to a quart of Water, and boyl it as Starch or Paste is boyled, then let it cool, for if you use it hot, it doth not strengthen so much; and when it is cold or very near, take a

Sponge

Sponge and rub it all over therewith, and be sure you do it every where, or else it will bear in some places and sink in others; this done, let it dry and then do it over again, and when it is dry the second time, you need not fear but you may lay on your Colours, for if the Paper be strong once will serve; and when you have Coloured it or them, take a Brush and therewith rub Varnish all over, but not too thick, though I know that pleaseth the Ignorant.

For chosing your Pencils.

Be sure that they be fullest next the Quil, descending or lessening into a round sharp point; if you perceive any hair stragling or longer then their fellows, then take it away by the touch of the flame of a Candle; And you should have several Pencils for your several Colours, or else you must be sure to wash it clean, when you put it out of one Colour into another, or else you will spoyle all your Colours.

To make Gume-Water.

Take a pint or more of clean Water in a Bowl or Earthen Pan, then take three ounces of Gum Arrabick, and put it into a clean Linnen Cloth, and tie it up with a thred, and put it into the Water, and let it lie till it is desolved; then wring the Cloth out, and put the Water into a Bottle or Glas to put to your Colours, as you see occasion; if it be too strong, you may put a little fair Water to it, and if too weak, a little more Gume.

The Names of the Colours.

The Names of the Colours used in Colouring Prints or Maps, are White-Lead, Cerusi, Lamblack, and that Black the Roulling-Press Printer useth for his Ink. Blews, Blen, Verditer, Blew bice, Indico. Yellows, Cambugio, Saffron, English Oker, light Masticot, French Berrys. Greens, Copper-green, Verdigreace, Sap-green. Reds, Lake, Vermilion, Red-lead, and a thin Transparent Red, which I shall speak afterwards. Brown, Spanish Brown, Umber, burnt and unburnt.

Some of these Colours must be washed, and some must be ground; some advise to grind those that must be ground first in fair Water, and to let them stand till they be drie, and then to grind them again in Gume Water, but once if well done is enough.

How to wash Colours.

Put so much of the Colour you intend to wash into a Porringer or Earthen Pan, then put so much fair Water as will cover it all over, and take a clean Skuer or little Stick, and stir it very well; this done, let it stand a little, but before it sinke too much, pour it into another Vessel, and let it stand till it be quite settled, then pour the Water from it, and mix it with Gume Water; the first bottom is so coarse, it is fit onely to throw away.

The Colours to be washed are these, Red Lead, Blew-bice, Light-Masticot, Blew Verditer, and Green Verditer.

To make Copper Green.

Take a pound of Argol, and a pound of Copper Dust, (it is to be had at the *Brasiers* or *Coppersmiths*) and put thereto two quarts or more of fair Water, and boyl it half away or more, then let it stand and settle, and pour off that which is clear and keep it in a Glas or Bottle for your use; If you have occasion for a Sea-green, put some Blew Verditer to it; or if a more Grass-green, put some of the Yellow that is made of the French Berry.

To make a good Green of Verdigreace.

Take a quarter of a pound or more if you please of Verdigreace, and grinde it well (but in so doing muffle your self, and let the Cloth come over both Nose and Mouth, for this Colour and several others is unwholesome, and therefore keep them out of the body as much as you can) when that is done, put it into an Earthen Dish, and put some Varnish to

it and stir them together, if your Varnish be so thick, that you cannot well work it, put in some oil of Turpentine and stir it together, and let it stand a little to settle;

To make a Transparent red.

This may be done two wayes, first by taking Brasill shaven, or ground, and put it into a Skillet, or Pipkin, then put in Vinegar more then will cover it, and put to it a pretty quantity of Allom bruised small, then set them over a fire, and let them boil together, strain it through a clean linnen cloth, and keep the Liquor for your use: or secondly, Take right Scarlet flocks, or shreads and having an earthen Pot, or Pipkin, put them and fair water in, and some Allom, let them steep one night then boil them, and save the Liquor.

To make a Purple.

Mix Lake and Bice together, or for want thereof, red Inke, and Blew Verditer, or you may take some Logwood, and a little Allom bruised, and in a Pipkin boil them in Vinegar, then strain it through a clean linnen cloth, and keep the Liqueur, if you put Lake to the Liqueur of Logwood it will make it deeper, if Verditer it will be lighter.

To make Hair Colour.

Boyl wood foot in the same manner as you did Brasill.

To make a Green to write or Paint with.

Take Verdigrace, Litarge, Quick-silver, as much as you think convenient, bray them well together with the Urine of a young Child, and it will be an excellent Colour.

To die Bones or Ivory of the Colour of an Emerald.

Take Aqua-fortis, and put therein as much Copper as it will dissolve, then put in what peece of work you please, after you have made it to your mind, and let them lie in it, the space of a night, and it will immitate the true Emeralds.

To die Bone red, Blew, or any other Colour.

First boil your Bones in Allom water, then take Quick-lime water or Urine, into which put Brasill Azur, or an Herb called Rubia, or what other Colour you please, then seeth your Bones or Ivory therein, and they will take what Colour you put in.

To die Skins Blew.

Take a quantity of the Berrys of Walwort and Elder, boil them, having in the first place well washed the skins, and wrung them, then take the Walwort and Elder Berrys and boil them in water, wherein Roch Allom hath been dissolved, then wet the skins in that water, and dry them twice or thrice, then dry them with a Cloth, and wash them in fair water, and with the back of a Knife scrape that water of, then dip it again in the Colour, and dry it.

To die Skins Green.

Take ripe Elder Berrys, and the Berrys of Walwort, and of sap Green, stamp it well add as much Roche Allum as you think convenient, then put lie into the said Berrys of sap Green, and boil it once, and put in the Walwort and Elder Berrys, and boil it once more, then let them cool, and after rub the skins with them; then throw some Ashes of burnt sheeps dung upon them, rubbing them well with it, then wash them with water wherein the Berrys were sod, then take of the water with a Curriers Knife, and let them dry, and if it want Colour put in more Indico boiled, and it will be the better.

To make Gold Letters without Gold.

Take of Orpiment and fine Christal of each an ounce, and bray them by themselves, mix them with the white of Eggs and write with it.

To make green Letters.

Take the Juyce of Rue, Verdigrease, and Saffron, bray them well together, and use it with Gum water.

To keep Whites of Eggs from putrifying; to prepare Cinabre and other Colours without Arsenick; a thing known but to a few.

Take whites of Eggs, fresh and whole, mix a third part of Vinegar to them, leave them the space of four hours, then strain them through a Linnen Cloath very clear, without breaking the Whites of the Eggs; leave it so eight dayes, then strain it again, and put it in a well stopt Vessel, and use it.

How to make a Sea Green.

Take Copper Green and put thereto a little Verditer, or Verdigrease in Vinegar, and mix more Verditer with it; either will do, for Verdigrease ground as afore said is a good green of it self, for Grasse and Trees.

How to make an Ash Colour.

This is done onely with White and Black, and to be shadowed with thin Black.

How to make a Flesh Colour.

Take White, Lake, and fine Red Lead, and mix them together, but put not too much of the two latter, for lest you make it too deep, the which if you do, you must then put in more White.

How to preserve Colours.

You may clearly see this if you have any White that is faded or dead, if you put thereto but a few dropes of Rose-mary Water distilled, for you shall find that it will become presently perfectly White, and a little of the said distilled Water, will also allay the Bubbles which are commonly troublesome in Grinding of several Colours.

Directions for laying on of Colours.

First, Lay your lightest Colours, and then shadow them.

Secondly, Those Colours that have Bodies, you must have a care of, that you lay them not too thick, so as that you cannot perceive the Print or Graving, nor where or how to shadow it, nor yet too thin, for then it will make but little shew.

Thirdly, Lay them very smooth, and even with your Pencil, and for that purpose, when you are to Colour Garments and things that are large, then take your Pencil pretty full of Colour (but at other times not) that so you may lay it smooth before it dry, for afterwards you cannot well do it, therefore be as quick as possibly you may, that so you may have done it all over before it be drie in any part, and for asmuch as some Colours are harder to lay on then others, because more Sandy, therefore you should be more careful about them, as Red Lead, Verditer, &c.

In mixing your Colours.

1. Be careful that you put not your Pencil out of one Colour into another, except you first wash it and squeeze the water out, for if you do not, it will blend and spoil all your Colours. 2. Mind that you do not make it too sad, and for that purpose put in but a little and a little of the sadder Colour, till you see it fit for your purpose, for if it be too sad you cannot well mend it, and if you lay it on your work you can never recover it; but if it be too light, you may make it sadder as you please. 3. When you mix any Colour, stir them first well with your Pencil, that so you may take the Colour as well as the Water, and then pour into a Shell, and do the like to the other you intend to mix, and so mingle them together, and put out your lightest Colour first, and then you will see the better how much of the sadder will serve.

White mixt with Yellow Oker, maketh a Straw Colour, but if you add thereto a little Yellow, a Colour like Box.

Now of Garments, and how they should be shadowed in general.

Thus every Colour may shadow it self, that is, if you first lay it very thin, and then take it thicker, and lay it over again in the shadows; or else which is better, if you mix White with it, and afterwards go over the darkest part with that Colour you mixed White with; but if you would have the shadows darker than the Colour it self is, then observe these following Rules.

E

1. Ver-

1. Vermilion with Lake, thick Red Ink or Spanish Brown.
2. Blew Verditer with Indico.
3. Yellow of the French Berries with Umber, Red Lead, or Red Ink.
4. Red Lead with Spanish Brown, Lake, or Red Ink.
5. Blew Bice with Indico.
6. Saffron with Lake, or Red Ink.
- Shadow, 7. Masticot with deep Orpiment, or Red Lead.
8. Spanish Brown with burnt Umber, or Black and Umber.
9. Umber with Black and some of it self, the two last are but little used.
10. Sap Green is used onely to shadow other Greens, & therefore not much used.
11. Cambugio with Red Lead, or English Okar.
12. Black cannot be shadowed with any Colour darker then it self.

You have no colour deep enough to shadow Lake or Red Ink, you may therefore mix White with either of them, and after you have laid your Garments all over with it, you may shadow it up with the Colour of it self; or for variety, lay your Lake or Red Ink all over first, and then shadow it with Bice or Blew Verditer, and this will make it look changeable: You may mix White and Saffron, and shadow it with Saffron onely, or else lay Saffron all over, and then shadow it with Lake or Red Ink. And with the Yellow of French Berries (for so they are called) you may make a pleasant Garment, and that two wayes also; Either lay your Yellow all over your Garment, and then shadow it with Green, or else lay the Yellow onely in the Lights, and then lay your Green all over the same Garment; and in this latter manner Leaves or Flowers, Fruits, &c. are done; the which maketh them look more pleasant and light some.

And now let me advise you to heed carefully what hath been said, and get at least these Implements about you; half a dozen of Pencils; for Colours, Vermilion, Red Lead, French Berries, or Yellow made thereof, Blew Verditer, Red Ink, Green, English Okar, and Umber, Gum Water to put to your Colours, and Pots to put them in.

And note, that if at any time your Maps, or Prints, are greasie, so that your Colours will not lie or stay thereon, then take an Ear-picker, or something else, and get some Wax out of your Ear, or Ears; and having done that, take your Pencil that you were working with, and strike it on the Wax, and then strike your Pencil on the place that was greasie, and you shall find that it will cause your Colours to lie and abide on the same place.

For Land-skips, the nearest and darkest parts, lay with burnt Umber, and in the lightest put some Yellow to your Umber; the next beyond them Verdigreace of a deep Colour then Copper Green, and Yellow of the French Berry mingled: The fourth degree Green Verditer, and the farthest lightest places with Blew Bice, or White and Blew Verditer mixed; the High-way may be done with White and Red Lead, and sometimes with Yallow Okar, and shadow it with burnt Umber, the which may serve for Sandy Rocks and Hills, onely the Rocks must have more variety of Colours, as some places with Umber and White, also White & Red Lead, and some with White and Blew for Rocks, and Sandy Hills, must be done with various Colours; the water you must do with White, Verditer, and a little Black (but still when you use Black, have a care of putting in too much, for it will spoyl all the rest) and sometimes with Copper Green, and a little Blew Verditer, when the Banks cast a Green shadow on the Water, but at other times it must be done onely with Blew Verditer, and when the shadows are very dark with Indico; the Bodies of Trees with burnt Umber, and the Leaves fader and lighter, as they shew in Nature on the Ground, so that the darker Green must shadow the lighter.

For Clouds, use Light Masticot, and shadow with Blew Verditer, sometimes White and Blew Verditer, and shadow with Blew Verditer; and at other times White and Lake, or Red

Red Ink and White, and shadow with Blew Verditer, all laid on and wrought, that no sharpness in the Edge of your Colour appear.

For Skie, White and Light Masticot, or the Yellow of the Berry, for the lowest and lightest places, White and Red Ink; in the next, White and Verditer, and Blew Bice for the highest of all; or in the place of Bice, you may use Verditer, or Smalt, which some count best.

For Building, in Washing and Colouring Prints or Maps, express variety of Colours, and pleasantness to the sight, that the several things may appear Beautiful to the Eye, yet so as not to be ridiculous; and therefore in Colouring Buildings, you may use White and Red Lead, for Brick-Houses, sometimes White and Lake, or Red Ink: And when many Houses stand together, use as many Colours as well you can, some with White and Umber, some White and Verditer, the which will serve both for Free-stone, Tiles, and Lead on Churches, or Houses.

What Colours set off best together.

White sets off with all Colours; Greens sets off with Red, Browns or Purples; Red sets off with Greens, Purples, Blews or Browns; Yellow sets off with Purples, Red, Greens or Browns; Blews sets off with White, Red, Browns, Yellow or Black; Browns sets off best with Greens or Yellows; Black is little used, and so sets off with any Colour, because so different from all.

To lay Gold or Silver with a Pencil.

Go to the Colour Shops, and procure a Shell of that you intend to use, the which you may have for a Groat, when you have it, put four or five drops of Gum-water to it, then stir it about with a new Pencil, or at least one that is very clean; this done, you may use it as you do other Colours.

How to take the Out-lines of any Print or Painting exactly.

Having a sheet of the finest Venice Paper, a Feather and Oyl, take some of the Oyl, and with your Feather rub all over one side of your Paper, and when the Oyl is well soaked into the Paper, take a clean linnen Rag, and wipe it off as clean as you can; your Paper being thus prepared, lay it upon the Print or Painting you intend to draw, and you will plainly see the said print or painting through the Oyled paper, and so with a Pencil you may draw all the Out-lines thereof; and having done it, you may take a piece of Black Lead or Charcoal, and scrape it on the back-side of the oyled paper, then take a Feather, and rub it all over, and that done, shake off what remains loose; and having done this, take a sheet of clean paper, and lay your oyled paper upon it, and with a small stick pointed, or the end of a Swallows feather, draw over all the strokes upon the oyled paper again, and it will have the same on the other paper, which you may finish according to what you draw after.

How you may lessen any Print or Painting.

If it be a print that you would lessen, take a pair of Compasses, and divide the length thereof into as many equal parts as you think convenient, and then also the breadth with the same distances; this being done, take a Ruler and a black Lead Pencil, and draw Lines quite over the Picture, making other cross Lines over them, whereby it will be divided into equal squares, and then take a clean paper, and make as many squares in it as there is on the Picture; you may make them as small as you please, but be sure the number be the same. Now having thus drawn both the Picture and the Paper into squares or Chequers, you may ges to draw it smaller, proceeding to draw from one square to another; and observe in what part of any square every part of that you draw after is in, and in the same part you must draw it on the paper you draw upon, until the whole is finished. Now having done it all with a Coal or Black Lead, you may draw it again with a Pen, and in your second drawing of it, you may mend any fault which before you escaped, and when it is dry, rub it over with some crumbs of white Bread, and that will take off all the strokes of the Black Lead.

The manner of making Pastils to Draw withall.

Having a large Chalk stone, make furrows of about three inches long, and as wide as a Swans Quill may lie in it, then take the stuff of which you intend to make them, whether it be red white, or other, being ground fine, and temper it with Wort or Oyl, and so make it
into

into Pap, the which being done, pour it into the Furrows, in the aforesaid Stone, and when they are dry you may take them out, and with a Knife shape them handfom, and sharpen the point fit for your use.

This which followeth concerning Limning, we purposed should have come in the second part, but the Printer having made a mistake, it will not be very unproper here, for as much as it is done in Water Colours; and what hath been already said, is onely concerning Drawing and them: Though I confess there is a vast difference between Limning and Colouring Prints; for he that goeth about to Limn before he knows how to draw well, had better do nothing, for by that means, both he and his work will be brought into contempt and slighted, even by those that have but little judgement, and whereas ordinary Colours usually serve for to colour Maps and Prints; yet Limners (as well as Painters) use the rarest and richest they can get, as Bice, India Lake, Ultermarime, and others.

How to prepare a Table to Limn or Paint, for Limning is a kind of Painting in Water Colours.

TO do this, take an ordinary playing Card, or a piece of very fine Pastboard, pollish it with a Dogs Tooth, and make it as smooth as possibly you can, the side you purpose to use, cleansing it from all spots, then take a piece of abortive Parchment proportionable to your Card or Pastboard, the which piece paste fast there to with cleane fine Starch; but before you use it, that it may be free from knots, temper the said paste in your hand, with a Knife or Finger; and then let it dry, then make your Stone you use to grind your Colours on very clean, and lay the Card or Pastboard thereon, the Parchment side being downwards, then with a Tooth pollish the back side as hard as you can; and note, that the out side of the skin is best to Paint upon, and therefore must be outinost. Having thus prepared your Card or Pastboard, you must lay a ground or Primer of flesh Colour before you begin your work, and that must be tempered according to the Complection of the Face you are to draw; if the Complection be fair, temper White-Lake, and Red-Lead, but if a hard swarthy Complection, then mingle with your White and Red, a little fine Masticot, or English Oker; but observe, that your Ground should alwayes be fairer then the Face you take, for that it is an easie matter to darken a light colour, but difficult to make a sad one lighter, for in Limning you must never heighten, but work them down to their just colour.

Now your Ground being fitted, you must lay it upon the Card or Pastboard, (ordered as before is said) with a bigger Pencil then ordinary, and lay it as smooth, even, and free from Hairs of your Pencil as possible; which that you may do, fill your Pencil full of Colours, rather thin and waterish, then thick and gross; then with two or three strokes of your great Pencil, lay it on in an instant, for the nimbler it is laid on, the evener it will lie.

Note that you ought to cover rather too much then too little with your Primer; this done, take a Musle or other shell, and before you begin to work, temper certain little parsel of several shadows for the Face, and them dispose about the edges of your shell, that so they may be ready for your use.

Colours fit for a Face.

For the red in the Cheeks, Lips, &c. Temper Lake, Red-Lead, and a little white together: For the faint shadows that are blewish, temper Indico and White, for Bice is never used in a Face; for deeper Shadows, take White, English Oker, and a little Indico; and for the darkest and hardest shadows, use Lake and Pink mixt with Umber: And note that black must not by any means be used in a Face. For other shadows, your own observation must direct you, for it is impossible to give a general rule for the shadows in all Faces. When you have almost finished, you must in the last place do all the Scars, Moulds, Smilings and glancings of the Eye, descending and contracting of the Mouth, all which must be sudden, to express a bold constant and quick hand. The best light to Draw by, is the North light, the which, if it fall sloping down from an high Window is best of all. Place your self so to your Desk, that the light may strike in sidelong from the left hand to the right; and take notice that in all your work it will shew to the best advantage, when it is turned so as to be seen by the same light it was drawn by.

The End of the First Part.

Academia Italica.

The Publick School of

DRAWING, OR THE Gentlemans Accomplishment.

Wherein you have,

First, More excellent Examples and further Instructions for your perfect attainment of that most Noble and Ingenuous Art.

Secondly, Directions for Painting, and the several Colours used in that most Excellent Art.

Thirdly, Ample information for Etching according to Mr. *Basse* and *Hollar*.

And lastly, Because you should be every way compleatly fitted, here is also shewed the use of the Graver, the which is necessary to help the Defects which oft fall out in Etching, and it is not onely more serviceable, but likewise sweeter and pleasanter.

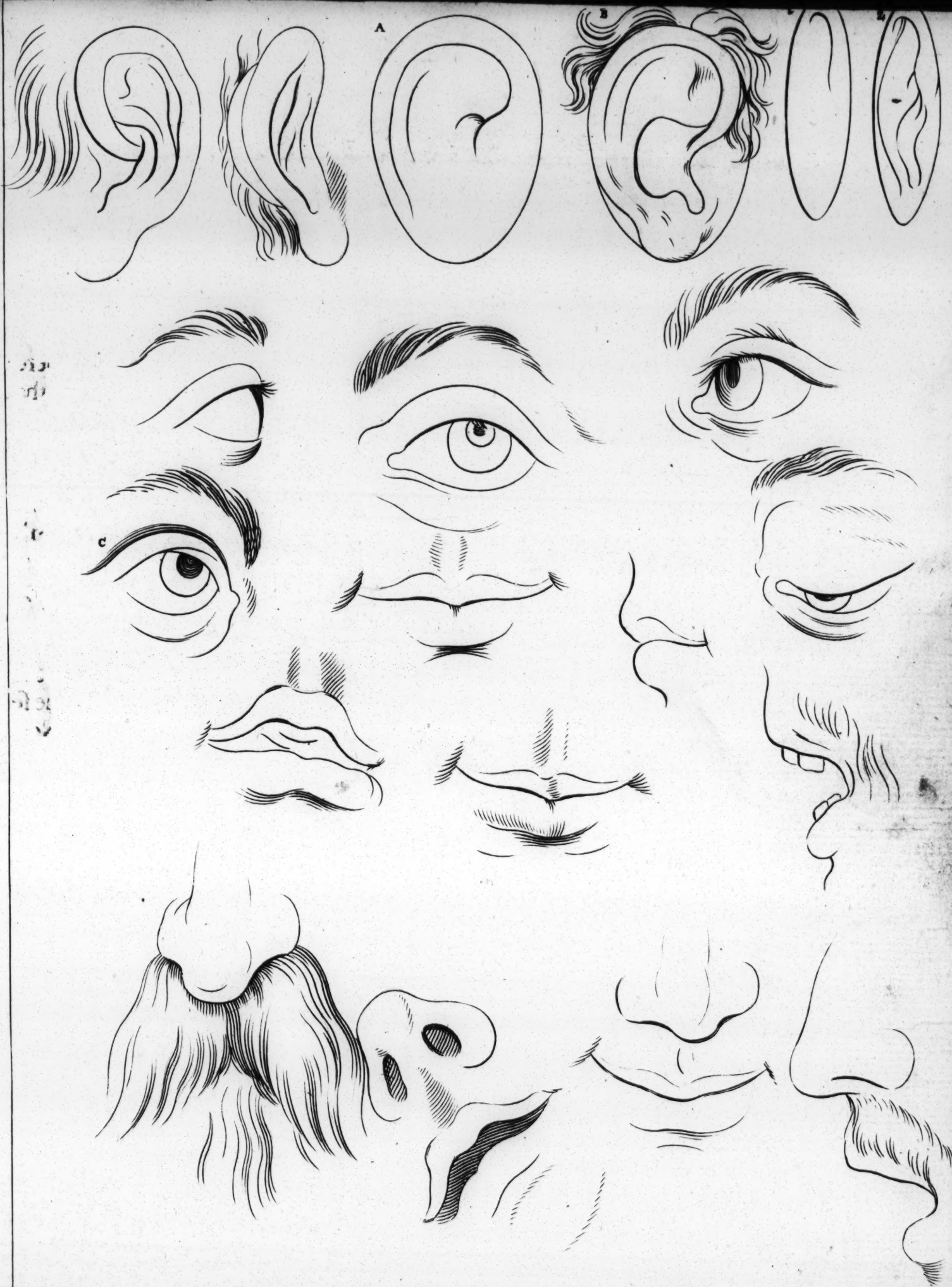
The Second Part.



LONDON, Printed by P. L. and are to be sold by *Robert Walton*, at the *Globe* and *Compasses* on the North side of *Saint Pauls Church*, 1666.

Of the Ear.

First draw an Oval, in manner as here you see represented by the letter *A.* drawing therein those lines as you see them expressed; then observe the perfect finishing of it, as is marked *B.* Then take notice that those figured 1, 2. and you will find, that though foreshortned in breadth, yet they agree in length; the which Rule you must observe in drawing of an Ear or a Face of what proportion soever: For according to the moving or turning of the Face, the Ear, as also the Nose, and every part of the Face must foreshorten or be left, of what bigness soever they are, as demonstrated in the next page, where we treat of the Faces made by Cords and Lines; but as for the rest in this leaf, they are all done either by circular or mixt lines, as you may apprehend by the two serqueler lines which make the upper part of the Eye lid marked *C.* the rest are of mixt lines, as winding several wayes, which I shall leave to your ingenious mind and imitation; and this may likewise serve for the third leaf onely, those are fully wrought or shadowed, by which you may take notice, that Patience, Care, Labour and Time, brings Perfection; and observe that there is all the several parts belonging to the Face made distinct, marked with several Figures, as 1. the Nose, 2. the Mouth, 3. the Eye, 4. the Ear, 5. the Nose and Mouth joyned together, and one of the Nose, Mouth, and Chin joyned all together, figured 6. And thus much for this.



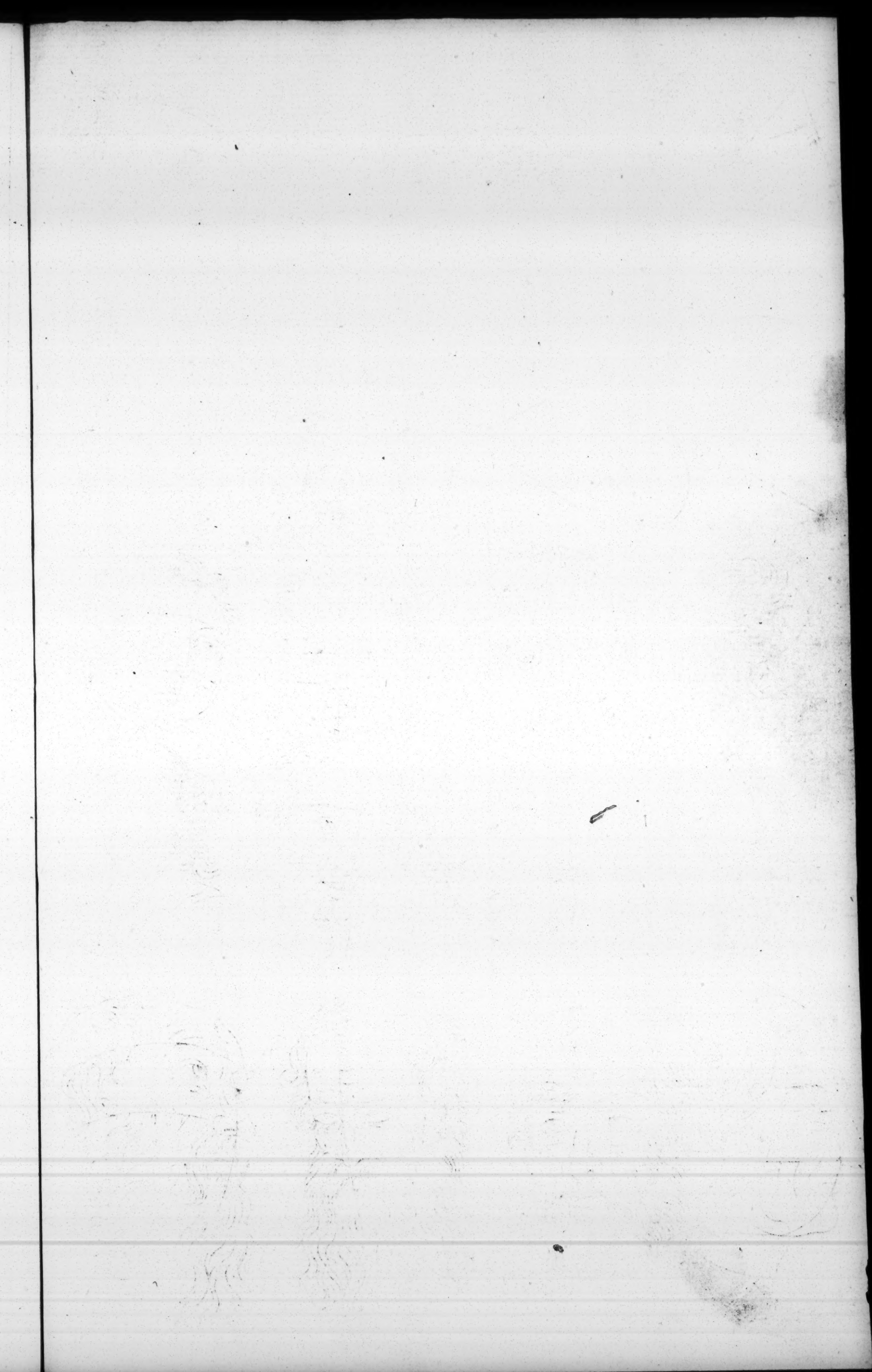
Academia Italica. The Publick Schoole of **DRAWING** in the
 which you haue more excellent Examples for your perfect
 Attainment of that noble and Ingenious Art.

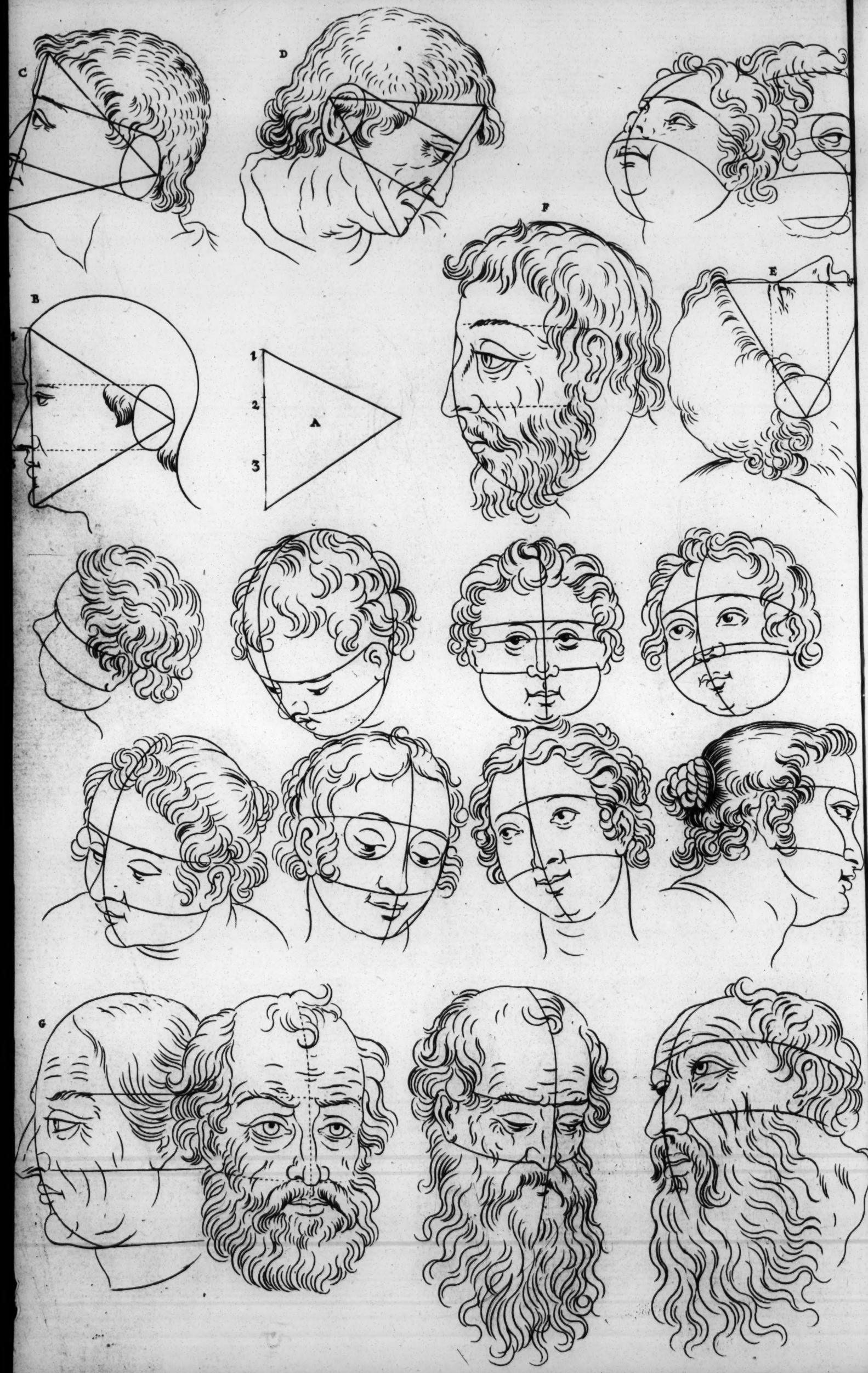
The Second part

Rob: Walton Excus:



The second part of the book is devoted to the study of the human face, and is divided into two parts. The first part is devoted to the study of the human face, and the second part is devoted to the study of the human face.





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Of the side Face.

THis may be done after this manner, first draw a perfect Triangle, as that marked *A*. this being done, if you will turn the Triangle, you may draw a Face which way you will, either higher or lower, upward or downward, as those three marked *C, D, E*. shew sufficiently; but we will give you onely one Example and Demonstration, and that shall be of the plain side Face marked *B*. The first division is for the Forehead, the second for the Nose to the lower end of the Nostrils, the third for the Mouth and Lips to the bottom and under-part of the Chin. Now having divided and drawn those lines, proceed and draw a little bowing stroke with Coal or Chalk, from the upper part of the Triangle, to the first cross prick-ed line, and that will give the form of the Forehead, from whence draw a waved slope line bending at the end to form the Nose, ending at the second prickt line where the Nostrils also must end; then subdivide the remaining third part, wherein must be placed the Mouth, and the parting of the upper and lower Lips, and then form the Chin, joyning thereto the under Chin down to the Throat Pit; and now for the two dividing lines, the one of which descendeth from the top of the Head to the middle of the back part of the Ear; the other ascendeth from the bottom of the Chin till it meets with the uppermost, and so their meeting directeth how the Circumference of the Ear must not stretch too far, whose form, as you may see, is Oval wise; Now from the upper part of the Forehead fetch a great Circular stroke with the best of your judgement to form the Head, joyning it to the nape of the Neck, and thence frame the rest of the Neck, keeping the natural proportion, remembring that the upper part of the Ear must not be higher then the Eye-brow, nor the Tip lower then the Nostrils; and by what hath been said, you see the use of all the Lines in that Heed marked *B*, and by this you may conceive of the rest, and observe that the Eyes must turn upwards or downwards according to the Posture you immitate; and the Muscles appear more or less, as forced or strained; and those three Heads marked *C, D*, and *E*, are performed by the way of a Triangle, as is *B*. onely, they foreshorten as turned upwards or downwards, but *F*, and *G*, &c. on the Oval form, as is demonstrated in the first part, where we treated of the fore-right Face; the rest you see plainly by the Cords and Lines foreshorten, as turned from the sight.

General Observations in Drawing a Head by the Life..

First, Take notice of the Physiognomy or form of the Face, whether it be small, bigg, long, round, lean or fat; and to these things you must have a special care, if ever you intend to make your Draught or Drawing like that you Draw by or after, whether Print, Painting, Plaister peece, or the life. But before you go about to draw by the life, my advise is that you practise first well after good Prints, such as those of *Egidius Sadler, J. Matham*, and other Excellent Masters mentioned in the Epistle, and then Plaister-pieces, for they will much inform your judgement, and so fit you whereby you will be able to discern how the life comes and must be done; but to the business before spoken of, having observed the Face you propose to follow or imitate, Draw the Circumference thereof taking in the Head withal, or else you may be mistaken in its true bigness; then be sure to observe all the Master touches and mark them out gently with your Coal, for it is they that give the Likeness, Life and Spirit of a Face, and therein lieth the Grace of Work, and the Judgement and Credit of the Workman. You shall discover a pleasant smiling Countenance about the Mouth, when the corners turn up a little; the sober staid Countenance is discerned by the Eye-lids, coming something over the Ball of the Eye; but a frowning Countenance discovereth it self plainly in the Fore-head, by the bending of the Eye-brows, and some few wrinkles on the top of the Nose; a Lean is understood by the sticking out of the Jaw-bones, and falling in of the Cheeks; and the Fat is manifested by its plumpness (and as it were (sometimes) swelling Cheeks)

Some instructions for the true and well drawing of whole Figures.

According to Art and good Reason, in all your Drawing, observe the sway and action which the thing is in, after which you intend to draw, for that speaks much the intention, as you may observe in these 3 figures is expressed, by their affectionate Countenances one towards another, with a loose motion of the Body sympathizing one with anothers injoyment, and rules of Draft, and for young beginners (as said in the first part) it will be convenient that they draw a streight or perpendicular line, from the top of the Head to the Bottom of the Heel, as in the middle Figure is there and here marked, from 1. over the Head to 1. under the Heel, quite down the whole Body, by which the Figure may be directed for its upright and proper standing, then observe where the body falleth in on the one side of the said line, and it must swell or stand out on the other side, for you may see the Hip of the resting Leg falls in, by which means you see all the motion of the Body answers that sway of the said Body, which adds a great looseness in the postures action, the which is boldness and freedom in drawing.

In drawing of Histories, you must first observe the chief figure, secondly, the great Action, in the said story whether pationate or affectionate, whether malicious, or courtcous, and in fine, all manner of dispositions whatsoever, the which two observations make a good design, and therefore he that is a Painter, ought to be both a good Drafts man and a Historian.

Some farther Directions for drawing a Naked Figure.

Be sure to place all the Muscles in their right and proper places; by the Muscles, I mean, the shadows that are caused by some dents or swellings in the Face or Body, and therefore you should labour to find out the reason of every Muscle, that so you may proceed to do your work with the more judgement; you will perceive the most Muscles in old and withered Faces, first draw the principal of them, and then place the Features exactly in their true places; observe to shadow them rightly, and be sure you do not make them too dark where they should be faint, it is not easily, if at all to be covered again; the shadowes are fainter, and lighter commonly in a fair Face, then in a swarthy complexion, and when as you have finished your draft, you must give a strong touch here, and there, in the darkest shadowes, the which will add grace and life to the piece.

Of Hands and Arms.

To these I shall say nothing, but refer you to what is said in the First Part, onely that whereas those are onely the Outstrokes and Muscles, these here are finished by the which you may see the better how things are done by degrees.

Of Leggs and Feet.

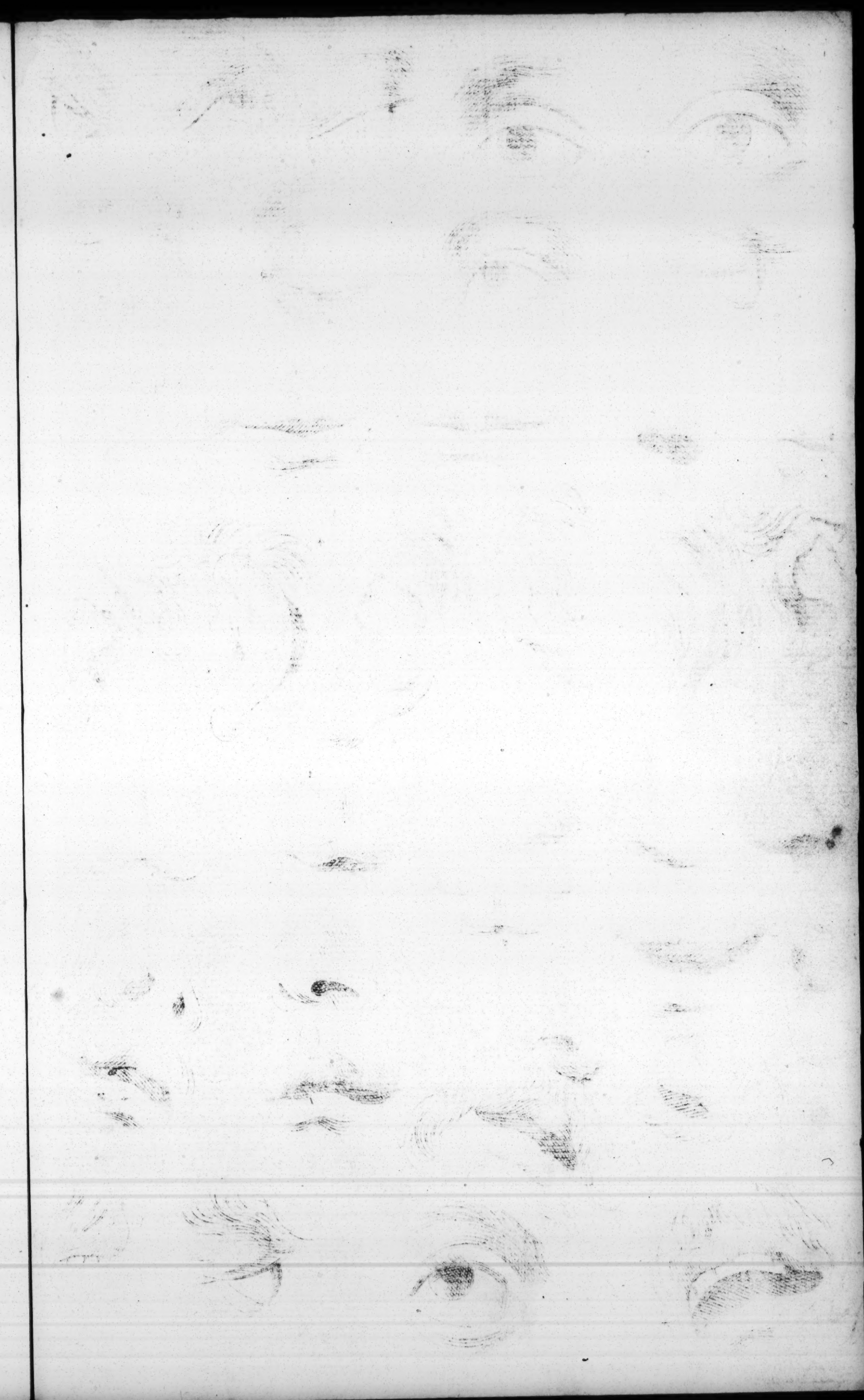
As to these I say there is no punctual Rule to be given, they being of such various Postures, yet of great Use and Concernment, and all the Outstrokes and Muscles lie so plain to the sight, that words are needless; I will therefore leave them to your Ingenious Consideration and Practice, onely refering you to what is said of the whole Figures.

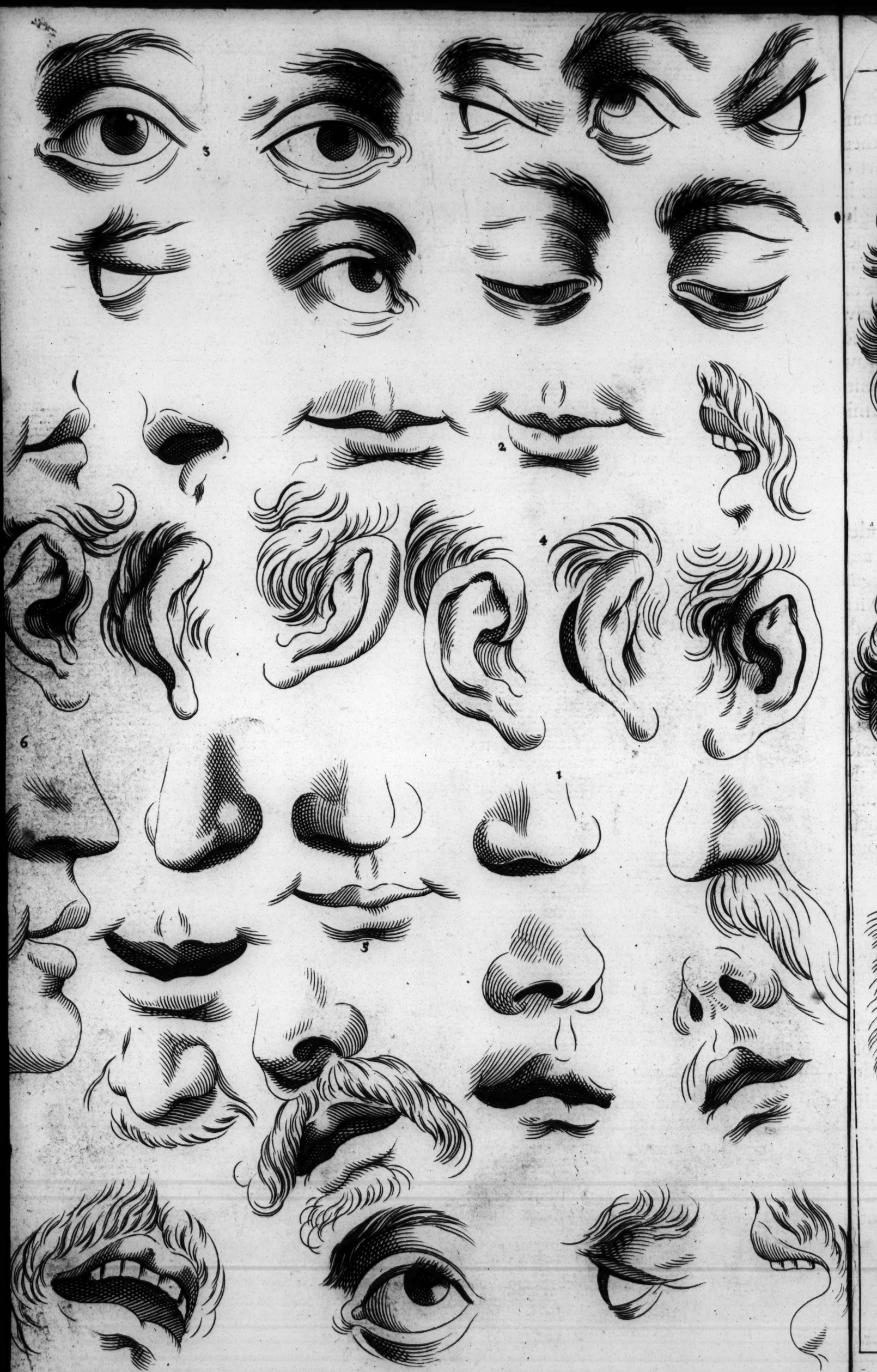
As for the Anotomies and Boyes which follow, I have said enough of them in the first part, but they have onely Outstrokes and Muscles, these are compleatly finished, whereby you see how the Lights and Darks or Shadowes fall; and you plainly see the Skillitons are the same; the Anotomies are the flesh being taken of, the which are of great use, as Painters know full well.

And as for the various postures of Men and Womens Bodies in the two last leaves, their several Actions are such, as that it causeth Alteration, declining, and foreshortning, according to their several Motions and turnings, as clearly appeareth by the things themselves, and by what before hath been said.











Of Garments.

In the first place draw the Out-strokes of your Garments lightly, and carefully, and mark and suite your Garments to the Body, making them bend with it, and do not make them straight where the Body should bend: and for this purpose you must observe which part of the Body bends in or out, that the Garment may answer thereto, and turn answerable to it, and also where the Body should come off Naked, and so draw your Garments accordingly, that they may yield in or out according to the several joynts and Limbs thereof: and secondly observe to begin at the upper part of the Garment, and draw that part of the Garment on both sides that lies closest to the Body, first a little on the one side, and then a little on the other, before you draw the loose part that flies from the Body, for if you should draw the loose parts of the Garments first, you will assuredly be out, and place the Body crooked or awry, and therefore workmen draw out the form of the naked body first, and then draw the Garments by which means they can see better to place them, and how the Garments should come to hang right with the Body, and this will be a means to prevent the Deformities which otherwise might happen to appear in the Body, and be sure to draw the greatest folds first, and then to strike them into lesse, letting one crosse another.

Concerning Lights, and how they ought to be disposed.

See that all your Lights come one way in your whole Work, and if the Light falls sideways, you must make the side farthest from the Light darkest or more shadowed, and not confused, as if it stood in the midst of divers Lights; for otherwise it cannot be equally light in all places: First, Because the Light doth not enlighten so fully any part as that opposite unto it: And the second Reason is from the Eye, for as much as the nearer part must needs come first to our sight, and so is seen more distinctly, and the second part being farthest off is not so clearly seen as the first; and therefore if you draw three or four men standing one behind another; the second being farther from the Eye, must be made darker then the first, and the third darker then the second, and the fourth darker then any of the rest. Therefore remember that that part must be made lightest, that hath the light opposite to it: As suppose the light be placed above the Head, then the Top thereof must be lightest, and the Shoulders next, and so less by degrees. Also that part of the Body that standeth farthest out must be made lightest, because it comes nearest to the Light, and the Light looseth so much of its brightness, by how much any part boweth inward, because those parts that stick out do hinder the full brightness of the Light, from those parts that fall any thing more inward.

Of Colours used in Oyl, or Painting, and how to be mixed.

White, Vermilion, Lake, burnt Okar, India Red, Spruce Okar, English Okar, Pink, Umber, Ivory Black, Blew Black, Indico, Smalt, Verdigrace, Masticot, the pale and the deep, Blew Verditer, Blew Bice, Ultermarine.

Before you use those Colours, forget not to put into them drying Oyl, viz. Into your Lake, Pink, Ivory and Black; and to make this drying Oyl, take an ounce of Litharge of Gold to half a pint of Linseed Oyl, then set it upon the fire, and boyl it gently, and stir it well all the time it is on the fire, and when it is well boyled, take it off the fire and keep it for your use.

Vermilion and White, make a beautiful Red, Lake and Vermilion, make the shadows for the same.

White, Lake, and Smalt, make a Purple, Lake and Indico, shadow it.

For a dark Red, Lake, White and burnt Okar, and for the shadows, Lake and burnt Okar.

White and pale Masticot for a light Yellow, and Pink and Masticot for the shadows.

For a dark Yellow, White and Yellow Okar, and for the darks Pink and Umber.

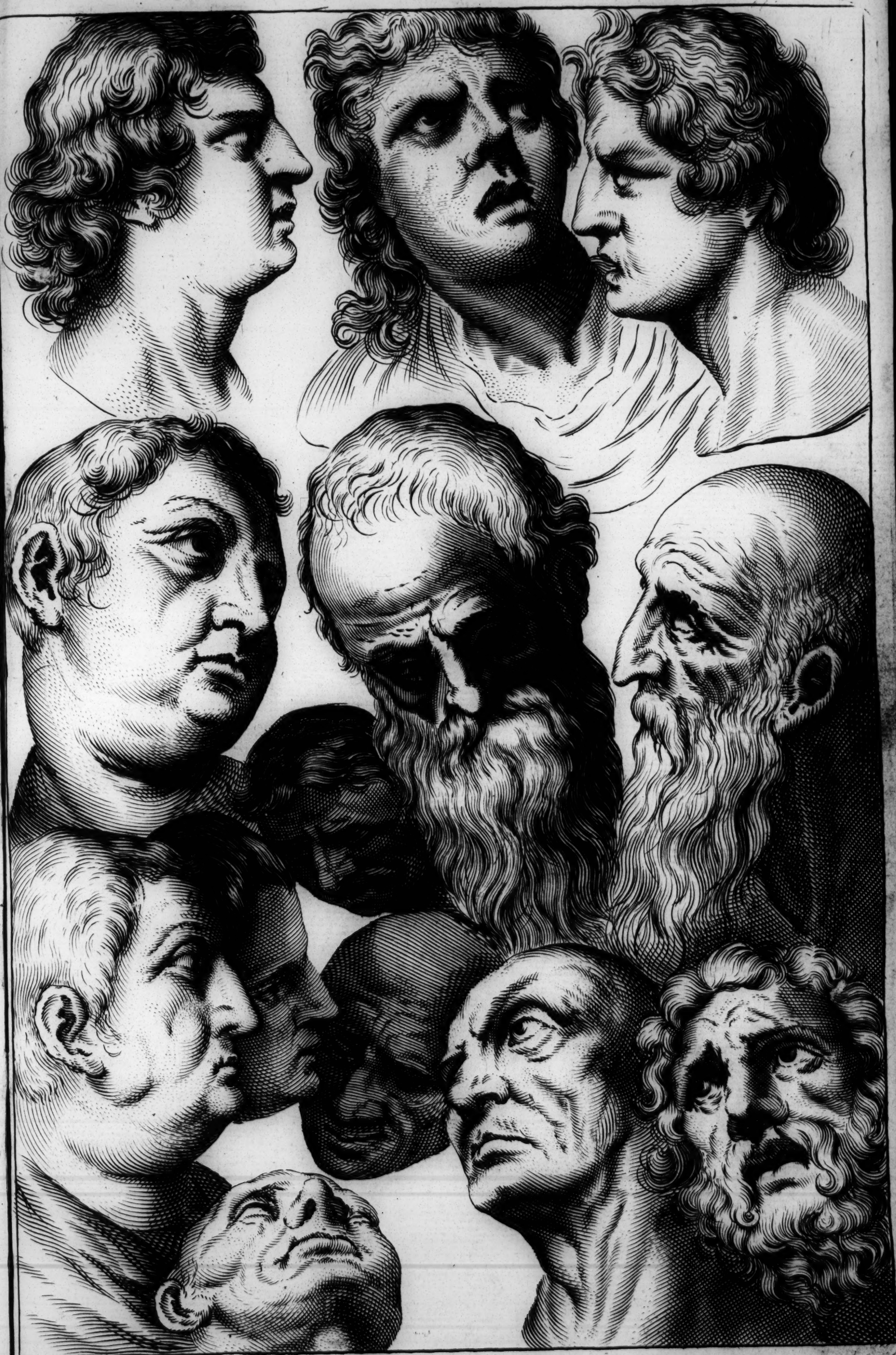
Indico and White, for the lights of your Blew Garments, and Indico for the shadows.

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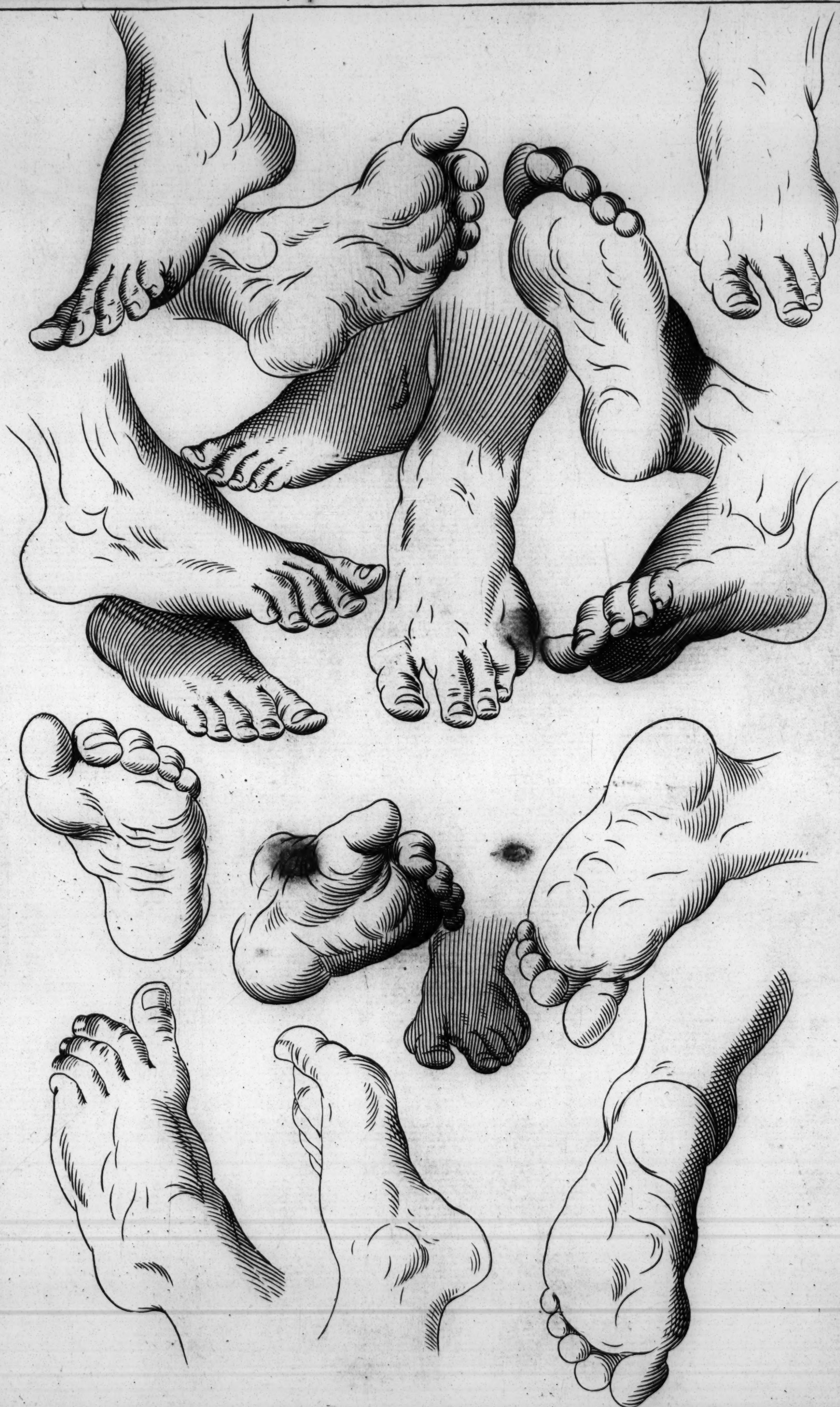




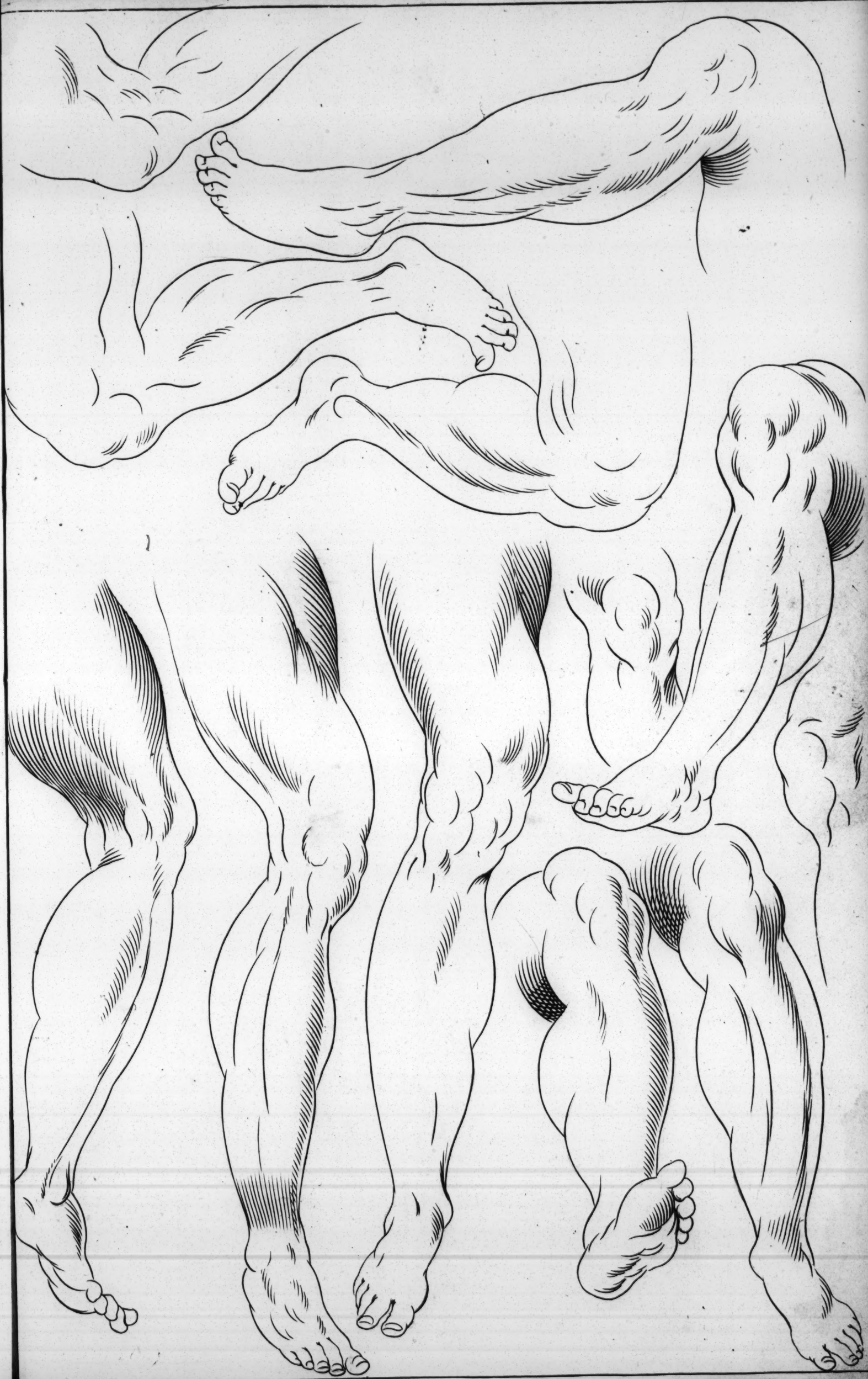










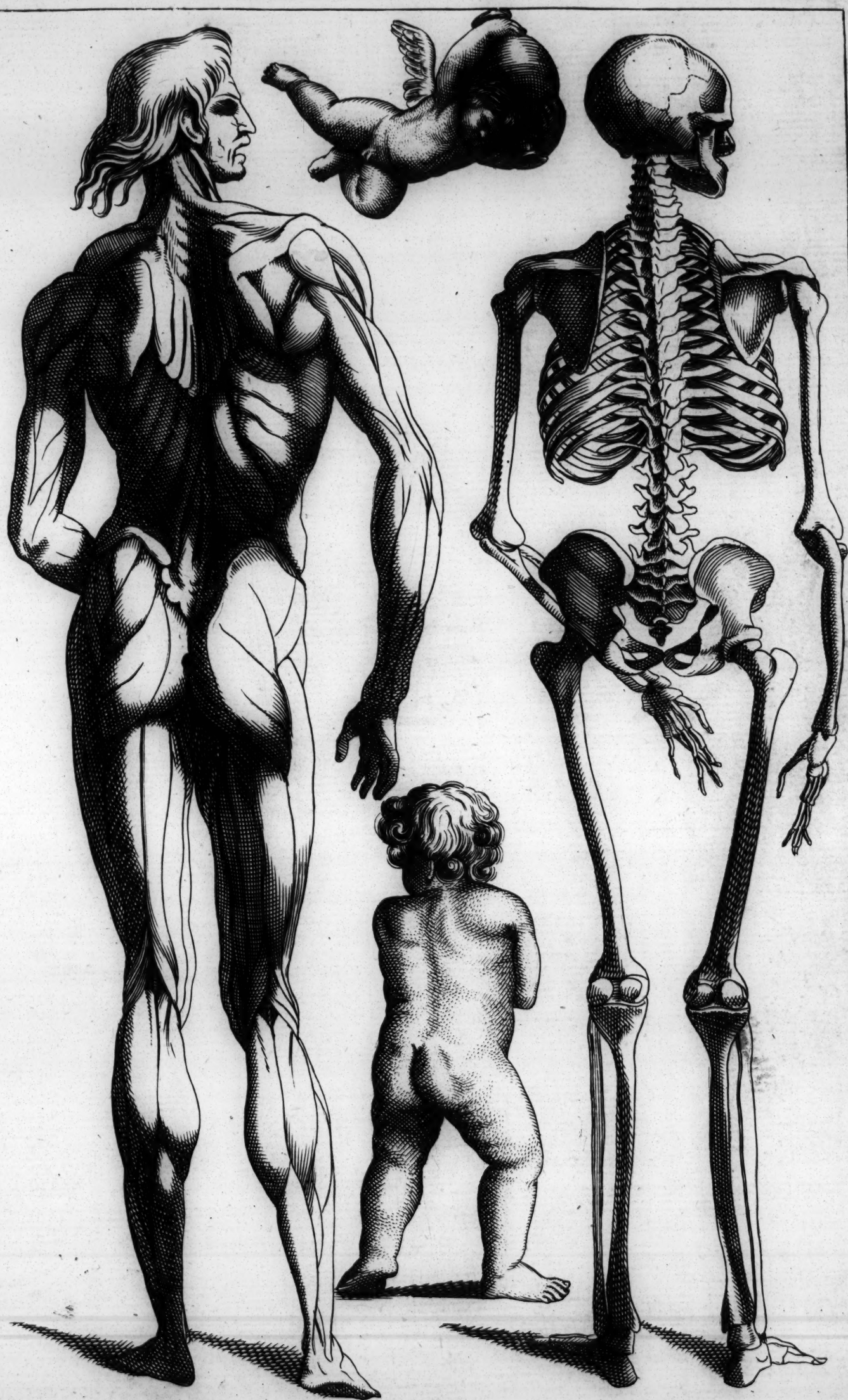


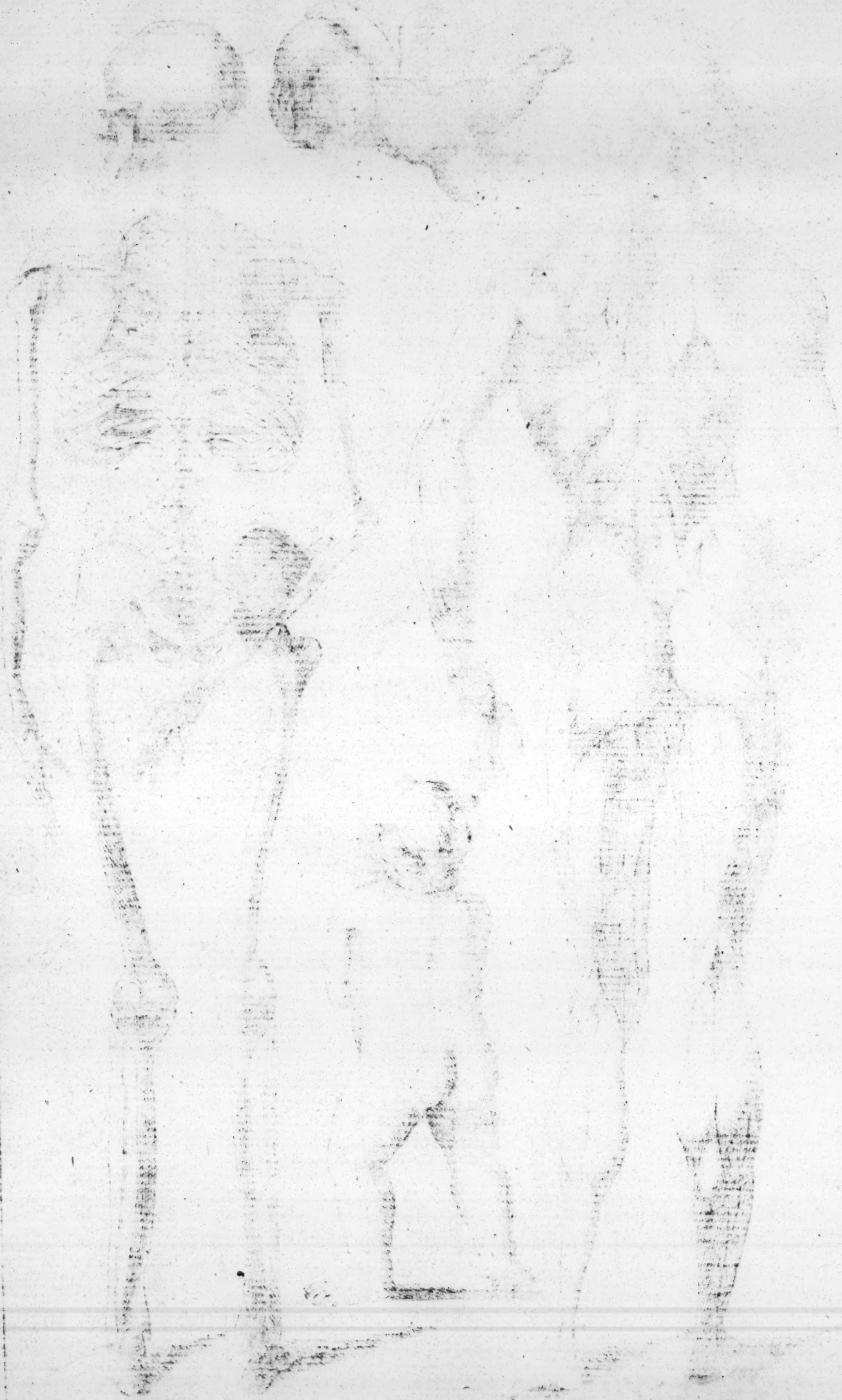
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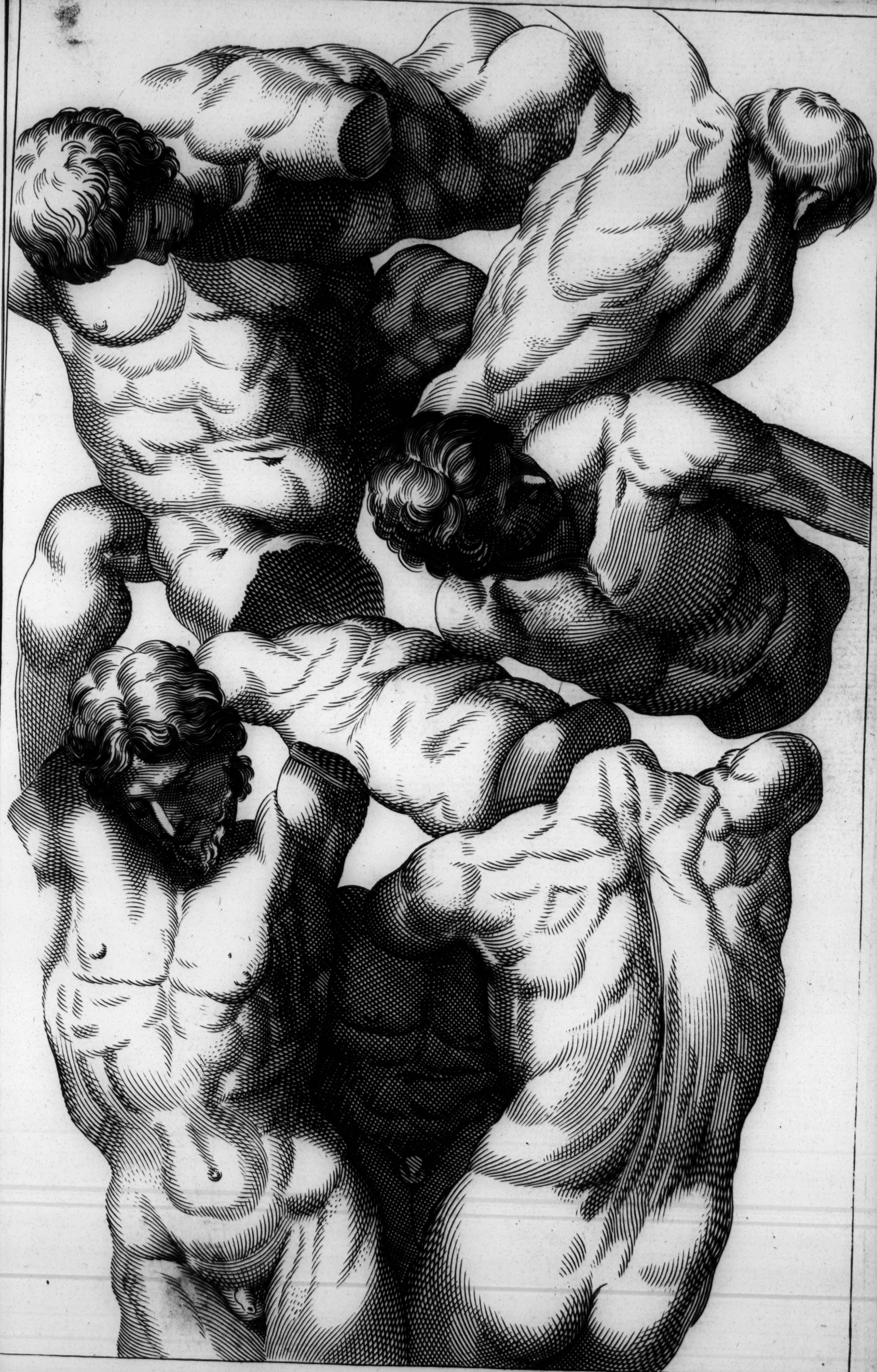


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For Green, Blew Verditer, Pink and White, the shadow to this is Indico and Pink.

For Black, Blew Black and White for the lights, and Ivory Black for the shadows.

Vermilion with Lake, make the Colour of Scarlet, Rubys, Ripe Strawberries, and Roses; and mixt with White, Damask Roses and fair Carnations, and it and Yellow make an Orange Tawny much like Red-Lead, also it and Black, a Colour like burnt Okar.

Lake and Verditer, make the Violet, Colenbines, a sad Murry and Wrinkles in Apparel, especially Satins; and it doth the like with Indico, and with Azure dry Roses, or Purple Colour.

Azure, Smalt or Indico, with Black and Lake, make a Black Velvet Colour, and add White, and it is fit for the lights of Ash Colour, Sattins and Velvets.

Okar with Vermilion, Lake and Black make a Tawny, and you may lighten them with White, Okar, Spanish Brown and Black, a Colour like Umber, Verdigrace and Pink, make the Green fields; it maketh the Colour of Diamonds, Glass, Armour, &c. And it lightneth all bodies of what Colour soever, according to their degrees.

Azures and Smalts mixt with Pink, make a dark Green, and if with Lake the Peacock Colour, or sad Murry; with Umber they loose much of their Colour, but with Black they are darkned and decayed.

Verdigrace and Pink make a fresh Green, but if Indico be added, then a dark Tawny, with Umber it decayeth. Lake and Indico make a sad Peacock Colour, and add Black the Colour of Iron, Tin, Glass, Chrystal and Silver, especially if your Black be that of Bole; Azure hath the same effect with Indico.

Yellow and Azure mixed, make a Green much used in Landskips and Apparels, and if with Indico a duller Green, but made much fresher by adding Orpigment; these Yellows mingled with Vermilion, make the Colour of fire and shining.

White Lead and Yellow Okar mixed, make a pale Straw Colour, and add thereto a little Yellow, it maketh a light Hair like Box, with Azure a Skie Colour, and so it doth with Smalt though different, with Verdigrace the Colours of all Herbs, Leaves, the Willow, the Olive; but much sweeter and with more variety, if you add a little Pink thereto.

With Indico, the Colour of Saphire, Jacinth, and the Skie in some parts thereof, and with Umber and other shadowing Earths, the Colour of Barks of Trees, Wood, Stones, Hair, &c. and with Black a dark Tawny, and of Smoake in the second degree.

All which mixtures are diversly varied and lightned as mixed with White, more or less.

Rules concerning Etching.

I suppose none will attempt this Practise, unless they know something of the Excellency and Necessity of Drawing, and what good advantage Drawing after Prints well Designed and Graven are; as also after Plaster Pieces, observing exactly to take the true Out-lines or Circumferences, and to take notice where the Shadows fall, for that will be a means to learn you to shadow according to Art: And likewise Hatching with a Pen after Prints well Graven, is very Advantageous to such as intend either to Etch, or Ingrave; the best for which purpose, are those of *Sanredam*, and others mentioned in the Epistle to the Reader, that are boldly Graven: And when as you are come that you can Draw well and Hatch with a Pen, then you may practice after the Life, but be sure to be exact and true in your Out-lines.

The particular Names of the several Instruments necessary for one that Etcheth.

First, A piece of Copper called a Plate well polished, a quantity of Ground the which you should carefully keep clean, Needles of several sizes set into the end of a slender stick about a span long, on the other end put a Pencil, a Scraper, a Burnisher, three or four good French Gravers well ground and whet, a pair of Compasses, a Rular, a quarter of a pound of soft Wax, some single *Aqua fortis*, the which keep in a glass stoping it close with soft Wax, a Stift, which is a stick sharpened, a Hand-vice, and an Oyl-stone.

The use of the Instruments.

The Copper is that on which you Etch, your Ground is to be laid upon or all over your Plate being warmed; the Needles are to hatch withal upon the Ground, the Pencil is to brush away the bits of Ground raised up by the Needle in hatching; the Scraper is to scratch out what is amiss; the Burnisher is to take out any scratch, and to smooth any thing that is rough; the Gravers are to mend where need requireth; the Ruler is used to draw all the streight Lines upon the Copper or Plate; the Compasses are but of small use, except to measure Distances, and to strike a Circle; the Wax is for to make the Wall about the Plate, that so the *Aqua fortis* run not off; the *Aqua fortis* is that which finishes the work, when you have hatched with your Needles on the Plate; the Stife is used to draw through all the outmost Lines of the Print or Drawing which you are to Etch; the Oyl-stone is to whet your Gravers upon. And now being accommodated with all these Tools, note that if it be a white Ground that lies on the Plate, then you must take Black Lead or a Piece of Charcoal, and rub it on the backside of the Print or Drawing, after which you intend to Etch; but if it be Black Ground that is on the Plate, then you must take White Lead and rub it on the outside of the Drawing or Print, and so much for the use of the several Instruments.

How to make Mr. Bosse's Ground to Etch, in Copper.

Take five ounces of Rosin, and as much Burgundy Pitch, and put them into a clean new Earthen Pot well leaded, and set them upon a gentle fire, and when they are melted and well mixed together, add to them four ounces of Nut oyl, and while they are over the fire, mix them well together; let them boyl about half an hour, and then slacken your fire that it may cool a little, and then touch it with the end of your Finger, and if it be boyled enough it will rope, which if it doth, take it off the fire, and when it is a little colder, strain it through a fine clean Linnen cloth, into an Earthen Pot well leaded, and keep it close stoped or covered, you need not fear to keep it too long, for it will last many years and be better and not worse.

Now to make a Compound of Greace and Oyl, which you will often have occasion to cover those places (or part) in your Plate, you would not have the *Aqua fortis* eat into; having an Earthen Porringer well leaded, put therein a quantity of Salet Oyl, then set it upon the fire, and when the Oyl is hot, put thereto a quantity of Candlegreace, and when it is melted, take a Pencil and dip it in, and let a drop or two fall on the backside of a Plate, and if the drop be a little hardned, it is well made; but if it be too liquid, there is too much Oyl, and therefore you must put in more Candlegreace, if it be too hard put in more Oyl. It being made in this manner, let it boyl an hour that the Oyl and Greace may mix well together. Note that in Summer, you must not put in so much Oyl as in Winter,

A good way whereby young Practitioners may know when their Aqua fortis hath eat deep enough.

Take a little bit of Copper and lay a Ground on it, and hatch several Hatches thereon, and make a Wall as before, and when you pour your *Aqua fortis* on the one, pour it on the other, and when you think they be eaten deep enough, pour the *Aqua fortis* from the little Plate, and wash it with clean water, then take a Knife and scrap off a little of the Ground where it is hatched; and if you find it is not deep enough, cover the Plate again with that I told you, you should stop any place you would not have any deeper eaten, and then pour the *Aqua fortis* on again till you think it is enough, then pour the *Aqua fortis* from the little Plate and try as before, and if you find that enough, pour the *Aqua fortis* from your bigger Plate, and with clean water wash it before you warm it to rub off your Ground, or else the *Aqua fortis* will stain the Plate.

How you may draw a Designe upon the Plate.

HAVING a piece of Virgins Wax tyed in a fine double Rag, take the Copper or Plate you are to Work upon, and heat it upon a fire, and when it is hot that it will melt the Wax, rub it all over your Copper, and with a smooth Feather stroke it all over that it may lie even, then let it cool

Now whether it be Print or Drawing you intend to Etch, its not matterial, but let it be whether you will, if you would not have it to print off the same way your Print or Drawing is you follow, then take a piece of Black Lead or Charcoal, and rub over the backside of your Designe (whether Print or Draught) and place the backside so blacked towards the Plate; then with your drawing point, draw all the Out-strokes of your Designe, and you will see all those Lines on your Plate or Copper; but if you would not have the Backside of your Designe or Print blacked, then take a piece or sheet of fine Venice paper as cause requi- reth, and do as before advised to your Designe, and place that side which you blacked to the Plate, and upon it lay the backside of your Print or Designe, and fix both of them to the Plate with a little soft Wax, and then Draw the Out-strokes of your Designe, leaning pretty hard on your Drawing point.

Now on the contrary, if you would have it that you intend to Etch Print, the same way your Designe is, then you must place the Face thereof towards the Plate, and having closed it even thereon, rub the backside thereof with a round Harft of a Knife, or any thing else that is round and smooth, and rub not too hard to cause the Designe to tear; and yet be sure to rub every where and well, and be sure it is enough before you take the Designe quite from the Copper, you may take up one corner and see whether it be enough, and if not, rub that down again and rub it more all over; if it be a Print that hath been long printed, it will not come off, and therefore before you lay it on the plate, you must draw all the Outstrokes with black Lead. And then place it, and do as aforesaid.

Mr. Hollers exact way of Etching.

TAKE three parts of Virgins Wax, one part of Asphaltum, one part of the best Mastick. If you will, you may take away one third part of the Asphalt, and put into its place as much Refine, that is transparent and clear, which I do hold better then Asphalt altogether, for it will make the Ground too black; 'tis true, you shall better see when you work: But when you have poured off your water to stop some things, you shall hardly see what you should stop, because your strokes cannot be seen, but the Colofonium or Refine, will make the Ground paler, through which you will see easily the strokes where you must stop them, through the other ground. So then, beat your Asphalt and Refine to powder, and put your Wax into a clean pipkin where nothing hath been before, and set it over a gentle fire, and let it melt and begin to boyl, then pour the Asphalt and Mastick into it, and mingle it altogether, then take some porrenger or such like thing full of clean water, and pour all the boyling stuff when all is melted into the water, provided the dregs at the bottom go not with it.

Then let it be cold so that you may frame it into a Ball, or what you will; and when you are to use it, take a very clean and very fine Linnen Cloth, and put into it a piece of Ground as big as a Wall-nut or more, but the Rag must be double or treble, tie it with a piece of Thred till you have occasion to use it.

Now for the Copper, it must be well planished, and polished over with several Stones, and then Coal it well, those Coals that sink into the water are the best, Beech-wood is the best to burn to make Coals, when you cannot get Char-coal. When your Cop-
pet

per is well Coal'd over, then let it be well dry, set the Copper aslope for the water to run off, and when it is dry scrape some Chalk on the Plate, and rub it very well all over with a clean Rag, and after that let not a finger touch it on the fore-side of the Plate, till you have put your Ground upon it, which must be done thus :

Put into a Fire-pan some Small-coal or Bakers Coal-fire, for Charcoal is too hot, lay down the Copper over the Fire-pan, so that the Fire may have air, then take your Ground (it being in the Cloath as aforesaid) and rub up and down the Copper not very thick nor thin, but so as sufficiently may cover the plate. Then take a Ducks Feather of the Wing, and with it spread your Ground as smooth as possibly you can spread it all one way, then cross and cross again till it lie even and well to your Eye, but take heed your Copper be not too hot, for when the plate begins to smoke, then the moisture of your Ground is burnt away, which will make the Ground to break in Etching, that done let the Copper be cold.

Then grind some White Lead with Gum-water, and mark, that so much Gum as a Cherry-stone will serve for a piece of White Lead as big as a Nutmeg or more ; but you must understand your self, to put as much water as the wet may be of a convenient thickness to spread on the Copper.

Then you must have a large pencil such as the painters do use, of the bigness of a Wall-nut or more, especially for your great plates, with that strike handsomly twice or thrice over your plate every way till you see it lie even. Then you must have another pencil or Brush, made of Squirrels Tails broader then the first, and very smooth and even, with that you may smooth gently the White, which you could not do with the other Brush, so let it dry.

Then take your Designe and Copper which you are to work, and scrape on the Backside of your Designe, some Red Chalk all over, then go over that with a soft Small-coal, till it mingle with the Chalk ; then take some Hand-brush or great pencil that is very stiff, and and rub up and down till it be fine and even, and so lay down the Designe on your plate, and with a blunt Needle or point, draw the Out-stroke. And you must have commonly three or four Needles, being fine, put them in a pencil-stick of the length of a Writing-pen, and on the other end a pencil to wipe away the Ground that your Needle fetches off when you work. The finest Needles you must sharpen on a fine Whet-stone, turning it constantly between your Fingers, as the Turners do their work. And as you work, you need not scratch hard into the plate, onely so much as the Needle may go through the Ground.

How to preserve your Ground, when upon the Plate.

After you have laid on the Ground and are going to work on it, in the first place lay a sheet of White paper over that part you do not work upon, then a sheet of soft course paper, on which you may rest your hand to keep it from the Ground when you work ; and when you have occasion to use your Ruler (which you will) when you are to draw straight Lines, then move your paper, so that the greater part may lie upon the paper, that it may not rub off the Ground ; and have a special care that no Gravel or Dust, get between the Ground and paper, for that will cause Scratches, and Rubs, in the Ground, which will do mischief.

And alwayes when you leave, be sure to wrap your plate into papers, otherwise the Copper will be subject to Scratches, and the Ground corrupted by the Aire, and the moisture dry up ; and the same inconvenience will accrue by letting the Ground lie too long upon the Copper, six Months or more. For then the White upon it doth eat out the moisture of the Ground, and in Etching it will seem to you deep enough, and when you put the Ground off you will find little or nothing, onely broad not deep. In Winter wrap your Copper in Blankets or such like, as well as papers, when you leave your work ; for should the Copper freeze, it will make the Ground leap from the Copper.

When you are going to Etch, then take of Green Wax and melt it in some little pipkin, and with a pencil, cover the Copper about the Edges with the hot Wax, that the other Wax may the better stick. Then

Then take more of the Green Wax, and make long pieces of the thickness of a Paste-board or thereabout, and as broad as a Knife or less, then fasten it about the edges, and have a little stick, being broad on the end and sharp edged, there withall thrust down the Wax to make it stick; then if your Work be curious and fine, take of *Aqua fortis* a third part of the ounce, and break it with the other Water, that hath been used twice or thrice, and take at least two parts to one part of the new which was never used.

In want of weak Water, you may take some Wine-Vinegar to mix your *Aqua fortis* with. But if your Work be coarse, and require to be deep, then you may use the third part of the ounce of the Water intire.

And such things as you would have fine and sweet, you must first pour of the *Aqua fortis* into some Dish, then wash off your Plate with clear Water, and let it be dry, then melt some Candle-grease with the dregs of your Ground, and with your Pencil, cover those places you would have faint, then pour the water on again, doing the same as oft as need will require. Then having finished, melt the Ground the same way you laid it on, and wipe it off.

Of Ingraving.

1. For wheting your Graver, you must have a good flat smooth Oyl-stone, and put a little Sallet Oyl on it, then take your Graver and lay one side of it flat upon the Stone, and that you may whet it flat and even, carry your hand stedfast, placing your Fore-finger on the opposite side of your Graver; and when that is enough, turn the next side and whet it in the same manner, as the other, so that there may be a sharp Edge, far better then an Inch, and then turn uppermost that edge which before you did whet, setting the end of your Graver overthwartly upon the Oyl-stone, and carry your hand very even that it may be whet even and sloping, making to the edge a sharp point, and to the wheting hereof be very careful. And note, that before you use your Gravers, it will be necessary to cut away that part of the Knob that is at the end thereof, on that side the edge of your Graver is on, that so it may not hinder you in the smooth and even carriage of your hand, in cutting your strokes.

The manner of holding your Graver is thus, you must place the Knob of the Handle of your Graver in the hollow of your Hand, extending your Fore-finger towards the point of your Graver, opposite to the edge that is to cut the Copper, placing your other Fingers on one side of the handle, and your Thumb on the other side of the Graver, that so you may guide your Graver parallell with the Plate. And now that you may work with the more conveniency, you must have a round Leather Cushion stufft with Sand, about five or six Inches broad, and three or four deep, and place this on a Board that standeth fast, and then lay the Plate upon it; and where you would have your Strokes deeper or broader in one place than another, there you must lean your Hand hardest. In making a streight stroke, be careful to hold your Plate stedfast on the Cushion, but if a crooked or winding stroke, then hold your Hand and Graver stedfast, and turn your Plate against your Graver, and keep your Arm and Elbow fixed or resting on the Board, or otherwise you can never do your winding strokes with that command, as by this means you may. If your Graver break often at the point, it is too hard; to help which, take a red hot old coal, and lay the end of that Graver there-upon until it becometh yellowish, and then dip it in water.

It will be necessary that you have a piece of hard wood by you, to strike the point of your Graver into, to take off all the roughness about the point after you have wheted it, and when you have Graved part of your Work, it will not be unnecessary to take off the roughness of the strokes, with the sharp edge of another Graver, and not with that you were using; but be careful to carry it even with the Plate, otherwise you may scratch your work: and then that you may the better see that which you have graven, Gravers use to roul up a piece of a Castor, and liquor it with Sallet Oyl, and therewith rub that part Graven, and if you discern any scratches in the Plate, rub them out with your Burnisher.

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on the Longy in his book 1669



